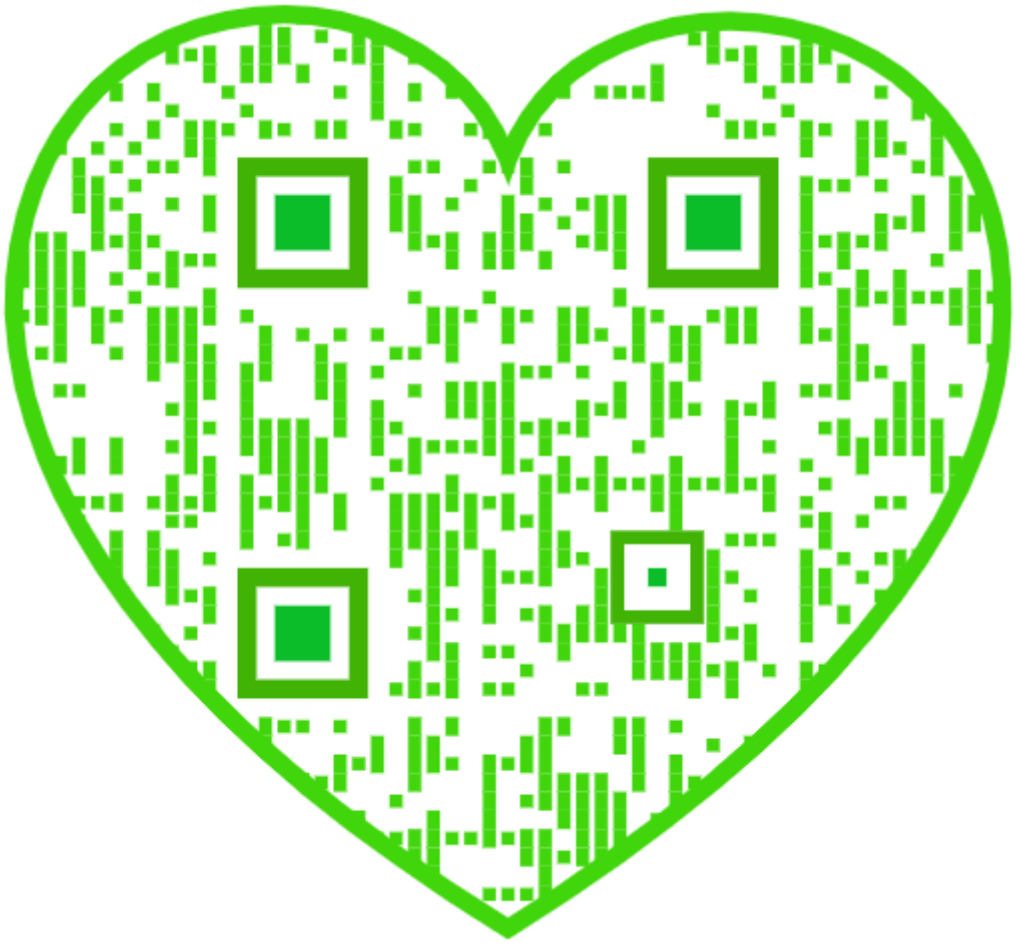
A Book for Midwives

Care for pregnancy, birth,
and women's health

**Susan Klein, Suellen Miller,
and Fiona Thomson**

Berkeley, California, USA



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All health workers have a responsibility to be honest with themselves and the people they care for about the limits of their skills. This means: only perform the procedures you are trained to. Find help from other, more experienced health workers when a woman needs a kind of care that you are not experienced with. Seek the advice of local health workers and medical authorities about the safest ways to practice in your area. This manual can help you learn new skills, but no book can take the place of hands-on training with a skilled and experienced teacher. Keep watching, reading, listening, and learning more whenever you have the chance.

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This book can be improved with your help. We want to hear about your experiences, traditions and practices. If you have any suggestions for improving this book, or making it better meet the needs of your community, please write to us. Your comments will help make future editions more useful. Thank you for your help.

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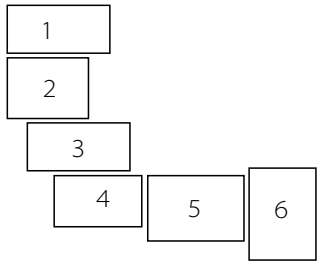

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The first edition of this book was imagined, written, and illustrated by Susan Klein. Sadly, she died before it was published. This new revision is still carried largely by her writing, her drawings, and we hope, her vision — that *A Book For Midwives* would be a tool enabling all those who attend women in childbirth, regardless of their educational background, to exercise independent judgment and to make the best possible decisions at each birth.

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How to use this book

Finding information

To find information, use the Contents, the Index, or the Tabs.

The **Contents** at the beginning of this book list the name of each chapter in the order in which it appears. Contents of each chapter are also listed at the beginning of that chapter.

The **Index**, or the yellow pages at the back of this book, lists all the topics covered in this book in the order of the alphabet (a, b, c, d...).

Each page in this book has a number at the bottom. To find a chapter or topic in this book, find it in the contents or index, and then turn to the page number listed next to it.

Tabs on the right-hand pages separate most of the book into 5 sections. You can quickly find the information on staying healthy, infection prevention, pregnancy, labor and birth (including postpartum), and on other health skills, by turning to the sections labeled with those tabs.

Warnings, medicines, and notes

Warnings, medicines, and notes are separate from the main text.

Warning boxes show very important information. When you see this kind of box, you must take action to avoid danger.

WARNING! Do not insert an IUD for a woman who has signs of infection. The infection can spread to the womb.

Medicine boxes show how to give medicines. Read these boxes very carefully, and always look in the green medicines pages starting on page 463 before giving a medicine.

These pictures show how the medicines in the box are given — in this case as tablets.

To lower a fever

- give 500 to 1000 mg paracetamol .....by mouth, every 4 to 6 hours.

Notes show information that is useful, but not directly connected with the information around it.

Note: Clean hands do not stay clean for long. If you touch anything other than the mother's genitals, you must wash again.

Understanding pictures of the body

How we show the outside of the body

When we draw a person, we try to draw her whole body. If we do not have enough room, we only show part of her body.

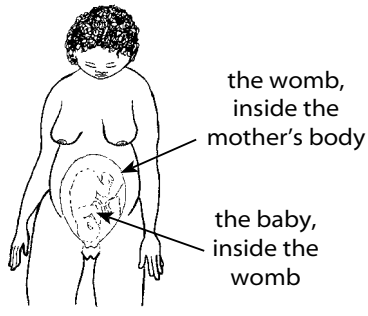
This picture shows a mother pushing her baby out of her vagina.

If it is important to see the baby's head and the vagina more clearly, we will show only that part of the body, so we can make the picture bigger.

How we show the inside of the body

Sometimes we need to show what is happening inside a woman's body. So we include pictures that show what a woman's body would look like if you could see inside of her.

Usually, we use thick lines to show the outside of a woman's body, and thin lines or dotted lines to show what is happening on the inside.



A note on language

Medical and technical words Throughout this book, we try to use easily understood words for parts of the body and things that the body does. We also explain the medical words we use. If there is a medical or technical word you do not understand, you can look it up in the index and see if it is explained in the book. Or you can look in the glossary on page 503, which lists some medical and technical words that are useful to know.

He and she When talking about babies, we did not want to say "he or she" each time because it can be awkward. So sometimes we say "she," and sometimes we say "he."

Getting help

The information in this book is not always enough to help you solve a health problem. When this happens, get help! Depending on the problem, you should:

Get medical advice. A skilled health worker or doctor should be able to help you decide what to do. This is not usually an emergency.

Get medical help. The woman or her baby need to see a skilled health worker or doctor for tests or treatment as soon as possible.

Go to a medical center or hospital. There is an emergency. Take the woman or her baby to a hospital right away for surgery or other immediate help.

Contents

Introduction

Chapter 1: Words to midwives 1

Learning is lifelong. 1
Share what you know 3
Respectful and compassionate care 6
Work to improve women's health 8
Work for the joy of it 11

Chapter 2: Treating health problems 12

Finding the causes of health problems. 13
Finding the best treatment 16
Finding root causes of health problems 21
Midwives can make change 25

Chapter 3: A woman's body in pregnancy 26

A woman's sexual and reproductive parts. 27
How women become pregnant 29

Chapter 4: Helping women stay healthy 32

Eating well. 33
Caring for the body for good health . . 42
Things to avoid during pregnancy and breastfeeding 45

Chapter 5: Preventing infection 48

Preventing infection saves lives 49
Prevent infection by keeping germs away. 52
Clean your hands and wear protective clothing 53
Clean the space and bedding 57
Clean and sterilize tools 59
Get rid of wastes safely 67

PREGNANCY

Introduction 70

Chapter 6: Common changes in pregnancy 72

Changes in eating and sleeping. 73
Body changes and discomforts 76
Changing feelings and emotions 82

Chapter 7: Learning a pregnant woman's health history 84

Questions in a pregnancy health history 86
Does she have signs of pregnancy? . . . 86
How pregnant is she now? When is the baby due? 88
Has she had any problems with past pregnancies or births? 93
Malaria. 98
HIV and AIDS 99
What else in her life might affect her pregnancy and birth?. 104
Making a transport plan 106

Chapter 8: Prenatal checkups 108

Talk with the mother 109
Check the mother's body 116
Check for signs of anemia 116
Weigh the mother 118
Check the mother's temperature 119
Check the mother's pulse 120
Check the mother's blood pressure 122
Check for signs of pre-eclampsia 125
Signs of bladder or kidney infection 128
Check the baby 130
Measure the mother's womb 130
Find the position of the baby 135
Listening to the baby's heartbeat 139
What to do if you find warning signs 142
After the checkup 144
Record of prenatal care 145

LABOR AND BIRTH

Introduction 146

Chapter 9: Getting ready for labor and birth 148

Signs that labor will start soon 149
When to go to the birth 151
What to bring to a birth 151
Sterilize your tools and wash up 153

Chapter 10: Giving good care during labor and birth 154

What happens during labor and birth 155
Care for the mother during labor 157
Be ready for emergencies 163
Keep a record of what happens during labor 164

Chapter 11: Opening: stage 1 of labor 166

What happens during stage 1 167
When you first arrive 168
Helping the mother relax in stage 1 169
Signs for the midwife to check in stage 1 170
The baby's position 170
The baby's heartbeat 172
The bag of waters 174
The mother's pulse 178
The mother's temperature 178
The mother's blood pressure 180
Bleeding during labor 183
Pain in the womb 183
Watch for signs of progress 185
Safe ways to encourage labor 191

Chapter 12: Pushing: stage 2 of labor 194

Watch for signs that stage 2 is near or starting 195
What happens during stage 2 197
Help the mother have a safe birth 199
Watch for warning signs 202
Help the mother give birth 206
Baby is breech 215
Delivering twins 219
Baby is very small or more than 5 weeks early 221

Chapter 13: The birth of the placenta: stage 3 of labor 222

Check the mother's physical signs . . . 223
Bleeding after birth 224
Watch for signs the placenta has separated 226
Help her push out the placenta 227
Watch for bleeding after the placenta is born 236
What to do for the baby 240

Chapter 14: The first few hours after the birth 246

What to do for the mother 247
What to do for the baby 252
General appearance. 253
Breathing, heartbeat, temperature . . . 254
The baby's body 256
Clean up and answer questions 267

Chapter 15: The first weeks after the birth 268

What to do for the mother 269
Watch her womb and bleeding 270
Watch for signs of womb infection . . 271
Watch for signs of vaginal infection . 272
What to do for the baby 274
Encourage the baby to breastfeed and watch how she grows 274
Care for the cord 277
Look for signs of infection 277
Watch the color of the baby's skin and eyes 279

Chapter 16: Breastfeeding 280

Breast is best 281
How to breastfeed. 282
When the mother works outside the home 284
Common difficulties while breastfeeding 286
Situations that affect breastfeeding . . 291
Alternatives to breastfeeding 294

HEALTH SKILLS

Introduction 296

Chapter 17: Family planning 298

Choosing a family planning method . 300
Chart: family planning methods 301
Making family planning work for the community. 318

Chapter 18: Sexually transmitted infections (STIs) 320

What are STIs? 321
Discharge from the vagina. 323
Sores on the genitals. 329
STIs that affect the whole body 334
Teaching women how to prevent STIs 336
How to help stop STIs in your community 337

Chapter 19: Advanced skills for pregnancy and birth 338

Vaginal exams during labor. 339
Home methods for starting labor . . . 341
Injections. 345
How to give fluid through a vein . . . 350
Catheters 352
Episiotomy 354
Sewing a tear or an episiotomy 356
Caring for a woman after female genital cutting (circumcision). 367
Turning a breech or sideways baby . . 369

Chapter 20: The pelvic exam: How to examine a woman's vagina and womb.. 372

When to do a pelvic exam 374
Before the exam. 375
The visual exam. 376
The speculum exam 377
Tests for infections and cancer 379
The bimanual exam (2-hand exam) . . 385

Chapter 21: How to insert an IUD 388

Help a woman decide if the IUD is right for her 390
Before you insert the IUD. 391
Inserting the IUD 392
After you insert the IUD 398
Removing the IUD 399

Chapter 22: Helping a woman after a pregnancy ends early 400

Problems from a pregnancy that ends early 401
Emergency care for problems after miscarriage or abortion 406
Infection 409
Bleeding. 412
Shock 414
Work with the community to prevent unsafe abortions 415

Chapter 23: Manual vacuum aspiration 416

Deciding when to do MVA. 418
Getting ready for the MVA 419
Doing the MVA. 422
Problems with the MVA 428
After the MVA 430

Chapter 24: Getting medical help 432

What medical centers and hospitals can provide. 433
Getting to a medical center 438
Working with medical centers and doctors 438

Chapter 25: Homemade tools and teaching materials 442

Low-cost equipment 443
Teaching materials 447

Medicines (green pages): uses, dosage, and precautions 463

When to use medicines. 463
How to take medicines safely. 464
How to take medicines 467
Kinds of medicine 470
Problem index. 472
Alphabetical list of medicines 473
Oral contraceptives 490
Medicines for HIV and AIDS 492

To learn more 499

Technical and medical words 503

Index (yellow pages) 505

Due date calculator 527

Midwives and community health

For thousands of years, since long before there were doctors or hospitals, midwives have been helping women stay healthy, helping babies into the world, and helping families grow. Ask a woman why she prefers the care of a midwife and she will tell you that midwives are knowledgeable, patient, and respectful of her traditions.

Why are midwives such important and valued health workers?

- Midwives trust in the safety of pregnancy and birth, and have confidence that women can work together to protect their own health.
- Midwives often live in the communities they serve, so the families they help know and trust them.
- Many midwives spend more time with the women they care for than a doctor or clinic worker would. This helps midwives to better understand women's needs, and to see danger signs.
- Most midwives are women. Many women feel more comfortable talking to a woman health worker.
- Midwives charge lower fees than most doctors or hospitals — valuing service to the community over the pursuit of money or power.
- In poor communities where there are few health services, midwives are often the only health workers.

For all these reasons, in most of the world midwives are the first and sometimes the only health workers women go to for help in birth or for any health problem. But midwives face a number of challenges in this important work.

Challenges

Perhaps the biggest struggle for midwives (and for all health workers) is fighting sickness and death in women and their babies. Every year, hundreds of thousands of women die in pregnancy and during labor. Millions more are injured or disabled. Most of these deaths and injuries happen to women who are poor — who do not have enough food, or safe homes, or adequate medical care.

Most of the midwives of the world live in poor communities, and many are themselves not paid a livable wage. The people of each community must show midwives how important their work is by supporting them in the ways that they can. Local governments would also be wise to invest in midwives. These governments rarely provide midwives with adequate education or supplies, yet they rely on midwives to care for the many women who have no access to other medical care.

I work in a restaurant 6 days a week, and then go home to care for my family. I'm tired all the time and my husband asks me to stop attending births.
But I continue because it is what I am good at, what I love, what I am called to do.

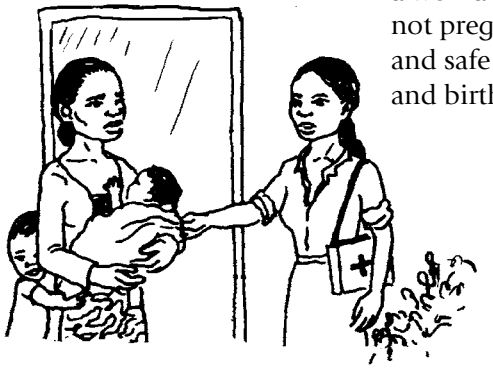
Along with being underpaid, midwives may struggle to receive the respect they deserve for their work. Doctors and others too often dismiss the contributions of midwives. When midwives are not treated as valued health workers — part of a community of health care providers who all share the same goals — their ability to care for women is hindered. Midwives may actually be locked out of the health system when a woman who has a health emergency is not allowed to bring her midwife with her to the hospital.

Traditional midwives (sometimes called TBAs) face particular problems. Many professional health workers, including professional midwives, see traditional midwives as incompetent or old-fashioned. These traditional midwives may be very knowledgeable about birth and skilled with plant medicines, gentle massage techniques, or other safe, effective practices. As more people leave their villages for cities, these midwives may be some of the only people preserving the knowledge and customs of their communities. Traditional midwives often work for little or no pay, but instead because of a belief in the importance of their work. Like other midwives, they do their work because they love women and babies, because they want to contribute to their communities, or because they are spiritually called to.

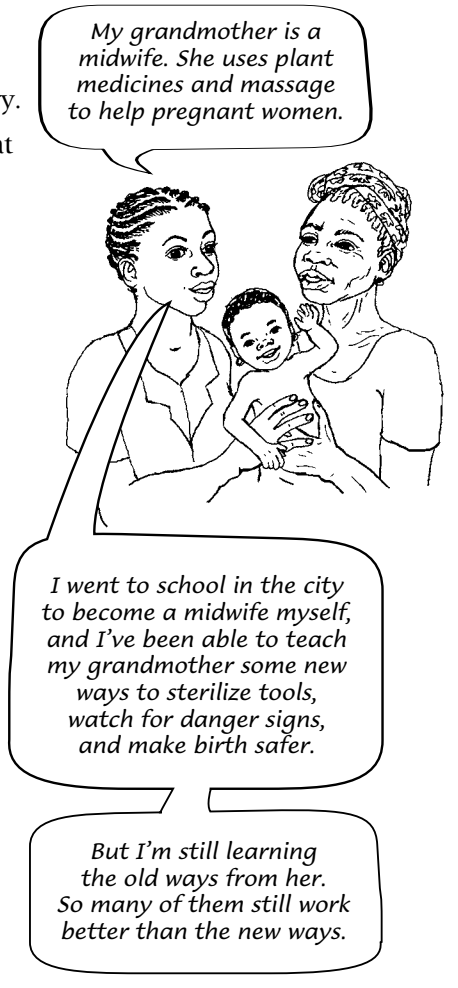
How *A Book for Midwives* can help

Midwives need accurate information to help them protect the health and well-being of women, babies, and families. They need strategies to fight poverty and the unequal treatment of women, and for working together and with other health workers towards health for all. We revised *A Book for Midwives* with these needs in mind. In this edition of *A Book for Midwives*, you will find:

- information needed to care for women and their babies during pregnancy, labor, birth, and in the weeks following birth, because this is the primary work of most midwives.
- skills for protecting a woman's reproductive health throughout her life, because a woman's health needs are important whether or not she is having a baby, and because a woman's health when she is not pregnant affects how healthy and safe her pregnancies and births will be.



- safe, effective methods from both traditional midwifery and modern, Western-based medicine, because good health care in labor and birth uses the best from both Western medicine and the traditions of midwifery.
- discussion of the ways that poverty and the denial of women's needs affect women's health, and how midwives can work to improve these conditions, because changing these conditions can make a lasting improvement in health.
- suggestions for how midwives can and must work with each other, with other health workers, and with the larger community, because working together strengthens everyone's knowledge and makes action to improve women's health more effective.


My grandmother is a midwife. She uses plant medicines and massage to help pregnant women.
I went to school in the city to become a midwife myself, and I've been able to teach my grandmother some new ways to sterilize tools, watch for danger signs, and make birth safer.
But I'm still learning the old ways from her. So many of them still work better than the new ways.

The basics of midwifery care will never change. Women and families will always need compassionate and respectful care before, during, and after birth. And because midwives always benefit from learning more, we hope that the expanded and updated information in this book will help midwives everywhere learn new and lifesaving skills, and apply those skills for the good of the women, babies, and families they serve.

CHAPTER 1
Words to midwives

In this chapter:

Learning is lifelong **1**

Share what you know **3**

Share what you know with other health workers and midwives 3

Share what you know with the community 4

Respectful and compassionate care **6**

Do not judge 6

Follow your own advice 6

Help people help themselves 7

Listen more than you talk. 7

Talk openly about difficult subjects 7

Keep things private (confidential) 7

Work to improve women's health **8**

People who affect a woman's health . . . 8

Men can care for women's health 9

Working together to save lives. 10

Work for the joy of it **11**

Words to midwives

CHAPTER 1

To work for the health and well-being of women and babies — that is, to be a midwife — you must be willing to learn, to treat people with respect and compassion, and to work together with others to meet the health needs of the community.

Learning is lifelong

The first step on the path to becoming a midwife — or any kind of health worker — is learning from others. And even the most experienced midwives continue to learn and gain new skills throughout their whole lives.

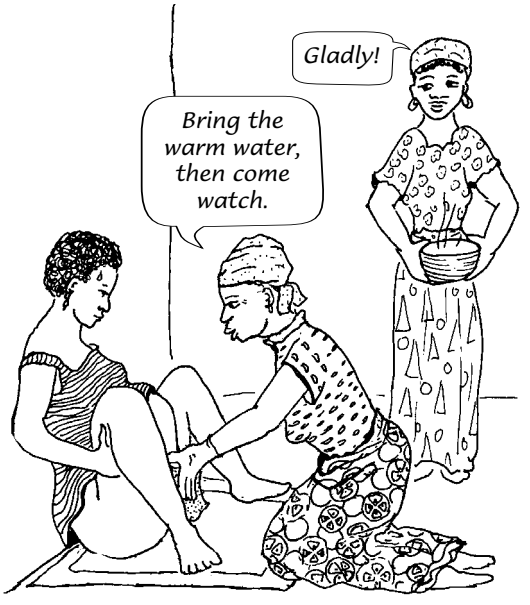
Midwives learn from experience and from books and classes. Each way of learning is important. All midwives should find a balance between study and practice.

Books and study help midwives understand a broad range of information.

But practice is the only way to learn the skills needed to care for women and babies.

Experienced midwives continue to learn

There is always more to know about birth and about health. Every birth is different, medical information changes, and there are new skills to be learned. As long as you are a midwife you can:



- **watch** how other midwives, health workers, and doctors do things.
- **ask** the women and families you work with what they like and do not like about the care that you give.
- **read** books or other written materials. Keep helpful books with you so you can look up information you do not use regularly or remember.
- **learn** new skills. If you can get the training and tools to do new procedures safely, do not be afraid to learn a new skill. This will allow you to help more women in your community and to become a better midwife.

Midwives learn from teachers, books, and other midwives and health workers. Mostly they learn safe ways to practice. But as any midwife gains more experience, she will discover that some of what she learned is not the safest or most effective way to care for women.

Midwives must be willing to change their ideas when they learn new ways of practicing so they are always practicing in the best ways they can. Midwives must look honestly at the ways they practice to be sure they are working well — whether they learned these practices from doctors, traditional healers, or anyone else.

Asking "why?"

Asking "why" is important because it helps you do more than just remember what you have been told or what you have read. When you know why, you can make decisions even when there is no person or book to tell you exactly what to do. You can also adapt a treatment or tool to be of use in a way that others may not use it. Finally, asking "why" is important for understanding the causes of problems — to treat problems effectively, and to prevent them from happening again.

Share what you know

Along with learning from books and teachers, midwives learn much of what they know from each other and from the families they care for. And midwives can improve health by sharing what they know with the community.

Share what you know with other health workers and midwives

Midwives can work together to help each other. If one midwife becomes sick or cannot work, another midwife can help the women she was caring for. Midwives can also learn from and teach each other. In some communities, midwives and other health workers share information with each other, talking honestly about their work. Some midwives come together to meet every few months, compare information, and share resources. At midwife meetings you can:

- **take turns telling stories about births you have attended.** Be sure to share the difficult births and mistakes. Admitting mistakes is difficult, but it is a great gift when there is an opportunity to learn from them. Other midwives can explain what they would have done the same or differently. To protect the mother's privacy, do not share her name.

- **ask other health workers to come meet with your group.** For example, an herbalist could come talk about local plants that can fight infections. Or a midwives group could talk with nurses from a local maternity center about how midwives and nurses can work together.

- **share educational books (including this one!) with other midwives.** If no one has much money, perhaps a group of midwives can put their money together to buy a book to share.

- **practice helping women with different problems by acting them out (role play).** For example, one person can pretend to be a pregnant woman who is not eating enough healthy food. Another person can pretend to be her midwife — listening and giving advice. Afterwards, each actor can explain how she felt, and the others in the group can offer suggestions for what they would do differently. Make sure everyone has a chance to play one of the roles.

- **make use of different midwives' skills.** If one midwife knows how to read, she can read aloud from books to the other midwives. A midwife who knows how to sterilize tools can teach the others in the group.

Share what you know with the community

As a midwife, you give advice, treat problems, even save lives. But the overall health of those around you is not in your hands alone. In part, this is because people decide for themselves how to eat, how to do their work, and what choices they make. By teaching and sharing information, midwives can help people to make their own choices more wisely. This is why your first job as a midwife is to teach.

Teaching can happen anywhere and anytime. During a checkup, when you explain to a woman why you are asking each question, you are teaching her. When you show a woman's husband why family planning is his responsibility too, you are teaching him. Even at the market, at a community gathering, or anytime you meet with others, you have the chance to teach.

Teaching classes

There are probably topics that many people in the community could benefit from learning about. If possible, call meetings for pregnant women, families, or other community members to teach about health and birth. You can teach about:

- how the body works.
- how to choose and use family planning.
- how to eat and care for yourself in pregnancy.
- how to have a safer birth.
- how to care for yourself after a birth and how to breastfeed.

Teaching is a skill, and it takes practice. A good place to start is by listening. When you find out what people already know, you can help them build on that knowledge. And when you listen, you will learn from those you are teaching.

Your ears are 2 of your most important tools.

For example, if a group of women wants to learn about sexually transmitted infections (STIs), you can first ask each person to share what she knows about STIs. Women may know about STIs from books or classes, from talking to other women, or from having had infections themselves.

After people have shared their knowledge, find out what questions they have. People in the group may be able to answer each other's questions. You can probably add some important medical information and point out when people have incorrect beliefs too. By encouraging the group to talk, you find out what they really need to know — and help them understand how much knowledge they already have. A person who feels confident that she understands a problem is more able to work to solve it.

Show respect for the people you teach, and be sure that what you say is meaningful to their lives.

- **Sit in a circle with everyone on the same level.** This puts you in the same place as everyone else, and shows that you are not the only one with knowledge.
- **Be prepared.** Think about what you want to share before you start teaching.
- **Use many methods to teach.** People learn differently, and everyone learns better when they learn the same thing in different ways. After you talk with the group about STIs, the group could act out a play about them. Or make posters about STIs to share with the community.

You all said you want to learn about what to eat during pregnancy and after the baby comes. What do you know about healthy eating now?
I've heard you should not eat meat when you are breastfeeding. It will harm the baby.
That's not true! You need to eat meat to make the blood strong!
But we cannot afford to buy meat!

Asking questions will help you understand what people already know, what they want to learn, and what obstacles they face.

Remember, some people are used to speaking up in groups. Others may be afraid. Encourage women, those who have little schooling, or anyone who usually keeps quiet to share his or her thoughts. For more ideas on how to teach so people can truly learn, see ***Helping Health Workers Learn***.

Share your knowledge with the people you care for

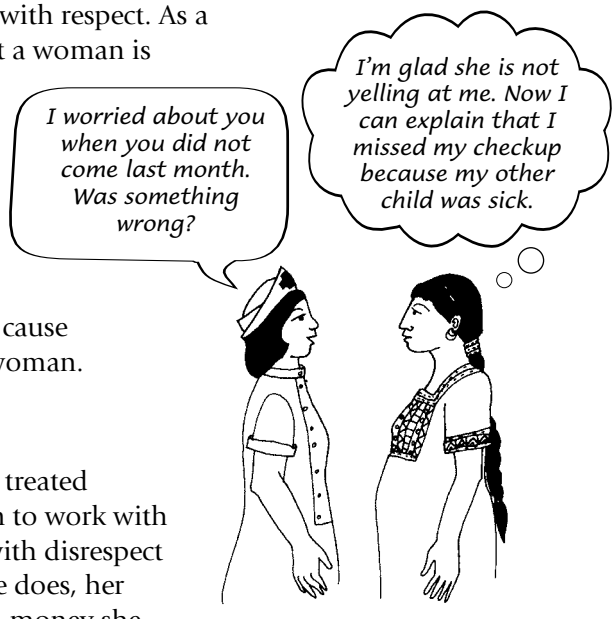
With accurate information, each woman has the ability to understand her body and to make wise decisions about her health. Each time you meet with a woman during pregnancy or for other care, explain what you are doing and why. Answer any questions the woman has about her body or her health.

Admit what you do not know

No one knows every answer. Some problems have no easy answer! Admit what you do not know, and people will trust the knowledge you do have.

Respectful and compassionate care

Everyone deserves to be treated with respect. As a health worker, the way you treat a woman is particularly important. Midwives are often trusted authorities. A kind or encouraging word from you can go a long way in giving a woman confidence in her ability to care for herself. An unthinking or cruel remark can cause hurt that lasts many years in a woman.


I worried about you when you did not come last month. Was something wrong?
I'm glad she is not yelling at me. Now I can explain that I missed my checkup because my other child was sick.

Do not judge

Some women are used to being treated disrespectfully. When you begin to work with a woman who is often treated with disrespect because of her age, the work she does, her ethnicity or religion, how much money she has, having a disability, or for other reasons, she may expect you to treat her badly as well. You can only overcome this fear by showing her that you are there to listen and help her — not to judge or criticize.

Follow your own advice

People are more influenced by what you do than what you say. And because midwives are respected by their communities, the things you do may encourage others to care for themselves. If you breastfeed your children, other women in the community may be more likely to breastfeed. If you do not smoke, other women may follow your example and not smoke, or may stop smoking. Live your own life as you would advise others to do.

Help people help themselves

Everyone has the right to decide what happens to her own body. And people can and should take the lead in their own care. In this way, they can become actively responsible for their own health and the health of their communities.

Listen more than you talk

A woman often needs someone who will listen to her without judgment. And as she talks, she may find that she has some of the answers to her problems.

Talk openly about difficult subjects

Some women feel shy, ashamed, confused, or private about their problems. This is especially common with family problems and sex. A midwife who talks honestly and openly about these subjects will discover that many women share the same problems. By speaking directly and comfortably to women about their families, sexuality, and sexual health, you will help women feel less alone, and you may help them solve problems that have a large effect on their health.

Keep things private (confidential)

Never tell anyone about someone else's health or care — unless the person says it is OK. And when you talk to women about their health, do it in a private place where others cannot hear.

In particular, respect a woman's privacy about subjects that may be sensitive to her, such as sexually transmitted infections, miscarriages and abortions, and family problems. You should never share this type of information without a woman's permission.

A midwife must keep what she knows about a woman private.

There is only one time when it is OK to share information about someone's health: if another health worker is caring for the woman during an emergency, the health worker will need to know the woman's health history in order to provide safe and effective care.

Work to improve women's health

Midwifery is not just about treating health problems as they arise. Health problems have many causes. Some are physical, some are social, economic, or political. By treating social, economic, and political causes, you can prevent many health problems — and protect more women in the community.

Working to treat social causes and to improve women's health is not something one midwife can do alone. She must work with the whole community. Understanding causes and finding solutions is more possible when people work together. See page 23 for ideas about working with others to make change.

People who affect a woman's health

A woman's health is affected by many people. To care for a woman, you must work with those people too.

Some of the people that affect a woman's health are:

- her husband, children, parents, and other family members.
- the people she works with, or works for.
- her neighbors and friends.
- community leaders — including spiritual leaders, government officials, and village heads.
- other health workers — like traditional healers, doctors, and community health workers.

A woman's health can be protected — or hurt — by the whole community.

Anyone who influences the way a woman works, eats, has sex (or does not have it), or cares for her daily needs has an effect on a woman's health. Sometimes the effect is good — it protects or improves the woman's health. Sometimes it is bad — the woman's health and well-being are endangered.

For example, it may not help to tell a pregnant woman to eat more if her husband always eats first and there is not enough left for her. She herself may believe her husband's and children's hunger is more important than her own. Who else could you involve to try to improve a woman's nutrition, when she does not have enough to eat?

- the woman's husband, who is eating first. Perhaps you could talk to him about how much food a pregnant woman needs.

- the men of the community, who all expect to eat first. The woman's husband may be more likely to change if other men do too. You could have a meeting of men and women and discuss why pregnant women must eat more to be healthy. If one man in the community agrees that women must have as much or more healthy food as men, this opens the door for others.
- children, who will soon grow up to be mothers and fathers. Each time a man eats first and most, and a woman eats last and least, their children see and learn that a man's hunger is more important than a woman's. By talking to groups of schoolchildren or by changing the way your own family eats, the next generation may grow up to value men and women more equally.

Who could you involve to make sure there is enough food for everyone?

Men can care for women's health

Whenever you can, encourage men to be partners in improving women's health. Husbands, fathers, sons, community leaders, spiritual leaders, bosses, and other men all play a role in how healthy women will be. If the men of the community feel responsible for the health of women, the whole community will benefit. Midwives can help men be involved.

Build on the roles and skills that men already have. For example, in many communities men are seen as protectors. Help men learn how to protect the health of women.

Encourage men to share the responsibilities of pregnancy and parenting. Men can care for children in the same ways that women do: comforting, bathing, feeding, teaching, and playing with them.

Invite women and men to community meetings, and encourage women to speak up.

Work with men who are sympathetic to women's needs. They can talk to other men who listen more closely to a man than to a woman.

Give practical suggestions. Men who care very much about the health of women in their lives may not know where to start. For example:

- Tell men how they can get tested and treated for sexually transmitted infections. If only a woman is treated, she will quickly be infected again by her partner.
- Explain to a man that his pregnant wife needs help with her daily work.
- During labor, show a man how and where to rub a woman's back to relieve her pain.

Working together to save lives

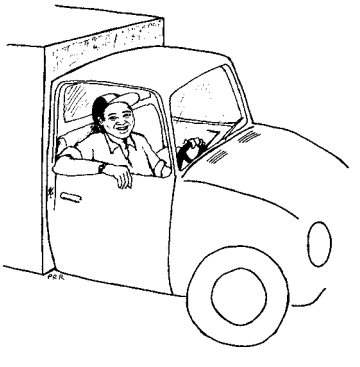
When midwives work with the whole community, they can find solutions to help the women they care for — or to help everyone in the community. Here is a true story:

A creative solution

In the small villages of West Africa, when a woman has a problem in labor, it is very hard for her to get to a hospital. Few villagers have cars, and most taxi drivers refuse to take women in labor. When a woman is in danger, there is little her midwife can do.

Some midwives and villagers talked about this problem, and discovered a creative solution. Even though no villagers had cars, they were near a large road. All day and night, trucks drove down the road bringing products to the city. Someone suggested that if a woman needed help in labor, she could ride with a truck driver to the hospital.

For this plan to work, the villagers needed to be sure that truck drivers would agree to stop if they were needed. They talked to someone from the union of truck drivers. The union members were happy to help, and now they have a system that is simple and effective.

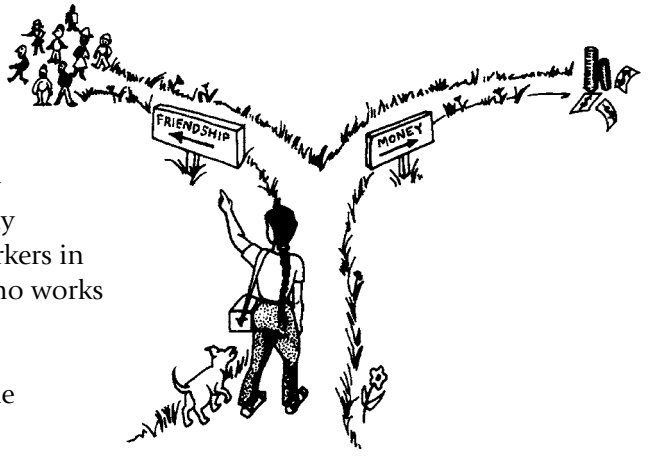


When a woman needs to go to the hospital, the midwife puts a yellow flag out near the road. When a passing truck driver sees the flag, he stops and picks up the woman and the midwife, and takes them to the city hospital.

By working together with each other, other villagers, the truck drivers, and their union, these midwives helped save lives.

Work for the joy of it

If you want other people to take part in improving their lives and caring for their health, you must enjoy such activities yourself. If not, who will want to follow your example?



Most midwives do their work out of love and as a service to the community. Although their work has great value, midwives are rarely paid much (a sad truth for many health workers and women workers in general). Even so, a midwife who works hard and puts the needs of her community first will usually be respected and appreciated by the people she serves.

You may or may not be paid for your work, but never refuse to care for someone who is poor or cannot pay. Everyone deserves your full care and attention.

The work of a midwife is often difficult. Midwives work long hours, lose sleep, strain their bodies, and challenge their minds. Midwives feel an intense responsibility that can cause stress or deep emotional pain. For most midwives, these challenges are all worth facing, because the work of a midwife is also so rewarding. Teaching women and families about their bodies and health, treating serious health problems, and helping welcome new lives into the world are some of the most important and rewarding tasks anyone can do in their lives. Our world needs the valuable work of midwives because midwives make this world stronger, healthier, and safer.

CHAPTER 2
Treating health problems

In this chapter:

Finding the causes of health problems 13

Finding the best treatment 16

Benefits and risks. 16
Types of medicine 17
Know your limits. 20

Finding root causes of health problems 21

Make change in your community to prevent health problems 23

Midwives can make change 25

Treating health problems

CHAPTER 2

Most of the daily work of a midwife is treating health problems. When a woman you are caring for has a problem, like exhaustion, pain in the belly, or even heavy bleeding, you will need to take these steps to solve it:

1. Find the immediate cause of the problem.
2. Choose the best treatment.
3. Look for the root (underlying) causes of the problem — to fully address the problem or prevent problems from happening again.

Finding the causes of health problems

In this section, we tell how Celeste, a midwife, solves a health problem. The details of this story apply only to Celeste, but the way she thinks about the problem and works to solve it can be used by any midwife for any health problem. We list each step that Celeste uses so that you can use these steps too.

1. **Start with a doubt.** This means start by admitting what you do not know.
2. **Think of all the possible causes.** Most ways of feeling sick can be caused by many different problems.
3. **Look for signs to find the likely cause.** Health problems have signs. You can see these signs in how someone feels, how their body looks and acts, and by taking medical tests.
4. **Decide the most likely cause.**
5. **Make a plan for what to do.** This could be a plan to change a person's habits, change something in their home or environment, or give a medicine.
6. **Look for results.** Find out if your treatment is working. If it is not, start these steps again.

Celeste's steps for finding causes

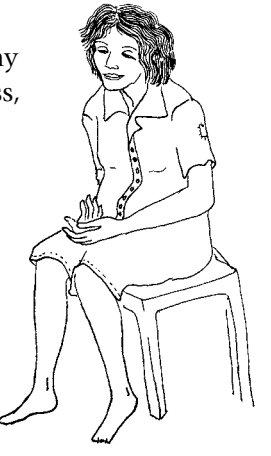
1. Start with a doubt.

A young pregnant woman named Elena came to her midwife, Celeste, for care. During the checkup, Elena said that she felt tired all the time.

First, Celeste acknowledged that she did not know what was making Elena tired.

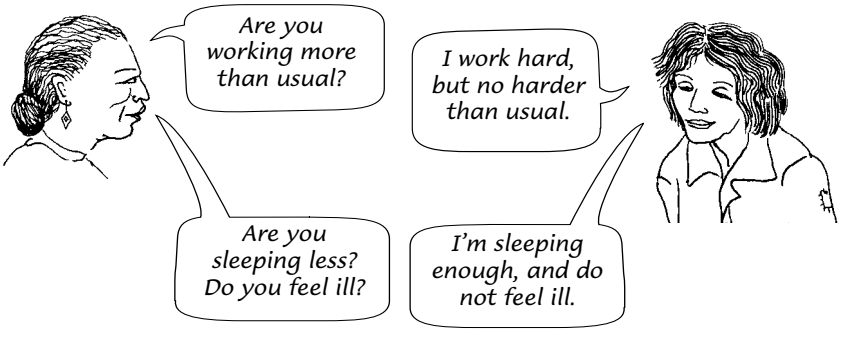
2. Think of all the possible causes.

Celeste knew that being tired can be caused by many things. Sickness, hard work, not enough sleep, stress, and anemia are some of the most common causes.



3. Look for signs to find the likely cause.

Celeste asked Elena questions to find out more about the tired feeling.


Are you working more than usual?
I work hard, but no harder than usual.
Are you sleeping less? Do you feel ill?
I'm sleeping enough, and do not feel ill.

Celeste also asked Elena what she usually ate. Elena said that she mostly ate maize and beans every day. Actually, mostly just maize. Elena complained of the high cost of buying meat.

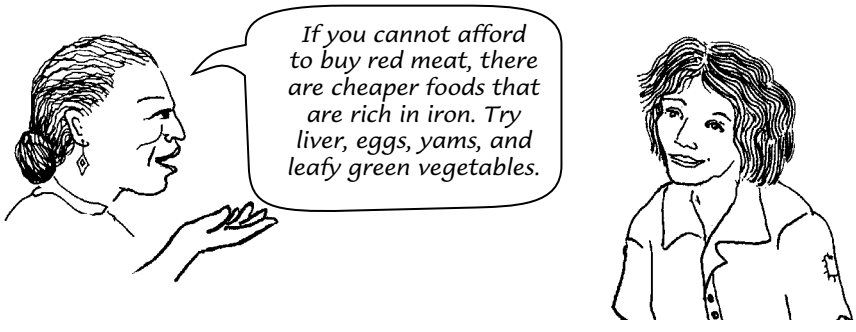
Celeste checked Elena's physical signs. Elena had pale eyelids and gums and a fast, weak pulse — all signs of anemia.

4. Decide the most likely cause.

Celeste could not do a blood test to be sure, because there was no laboratory nearby, but all the other signs showed that Elena probably had anemia.

5. Make a plan for what to do.

Celeste explained to Elena that anemia can cause tiredness and make it hard for a woman to recover after a birth — especially if the woman bleeds heavily. She told Elena that anemia means not enough iron in the blood and that it can usually be cured by eating foods rich in iron and protein or by taking iron pills.


If you cannot afford to buy red meat, there are cheaper foods that are rich in iron. Try liver, eggs, yams, and leafy green vegetables.

6. Look for results.

When Elena came back for her next check up, Celeste checked for signs of anemia. After improving her diet, Elena seemed be getting better. If Elena had not gotten better, Celeste would have recommended that Elena take iron and folate pills.

These 6 steps will help you solve most health problems.

Note: To "start with a doubt" is very difficult for most health workers. Many health workers are afraid to admit when they do not know an answer. But **to accurately assess a problem, and to treat it appropriately, we must admit what we do not know.**

Finding the best treatment

When you treat any health problem, from anemia to too-long labor to heavy bleeding, you must find the treatment that has the most benefits and the least risk of harm.

Benefits and risks

Any time you make a decision about a medical treatment, you should consider the benefits and risks.

A benefit is the good that an action or treatment might bring. A risk is the harm that it might cause. Each time you make a decision, try to choose the action with the most benefit and the least risk.

When the benefits "weigh" more than the risks, an action is worth doing.

Think again about Elena and Celeste:

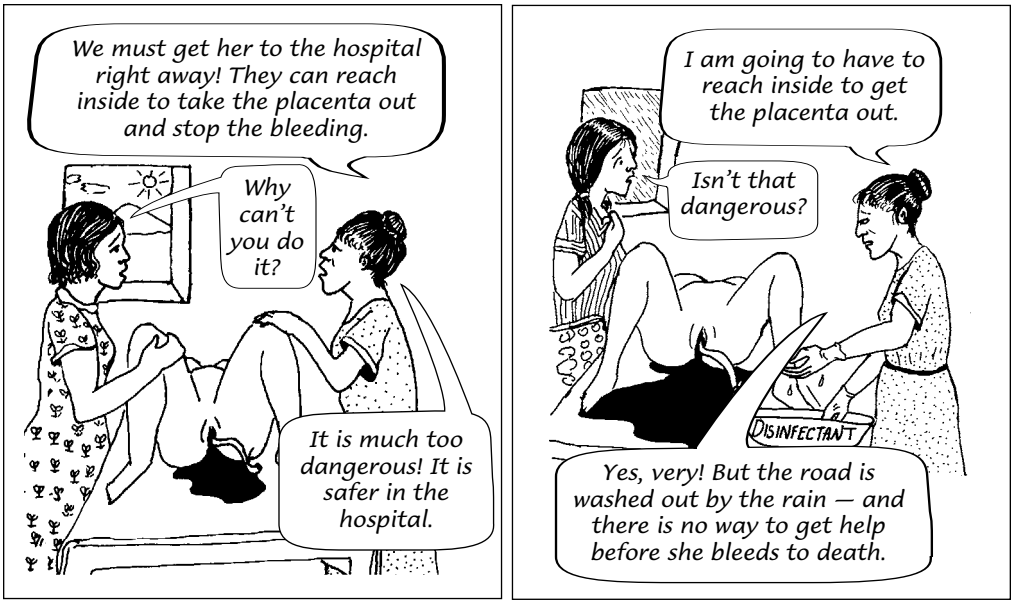
What if Elena's anemia did not go away after eating more iron-rich foods and taking iron pills? She and Celeste would have to make a difficult decision.

Celeste knows that a woman with severe anemia is probably safer giving birth in a well-equipped medical center than at home. This way, if severe bleeding happens, a blood transfusion is immediately available. Without this care, Elena might be very weak after the birth. This weakness will make her more likely to get an infection. It will make it very hard for her to care for her family and herself. And if a baby's mother is not able to care for him well, he may be in danger too.

On the other hand, most women in the village have anemia. And most of them will not have serious problems after their births. The hospital is a day's journey away and very expensive. Elena's family would have to spend most or all of their money for her to give birth there.

Staying home and going to the hospital each have benefits and risks. What would you do?

Medicines in particular have both benefits and risks. Even a medicine that is very helpful for treating a health problem may have side effects or dangers. In this book, there are procedures and medicines that have very serious risks. We include them because when they are truly necessary, they can save lives. But before giving any medicine or doing any invasive (inside the body) procedure, including emergency procedures like removing the placenta by hand (page 230) or MVA (page 416), you must decide if you can do it safely — with more benefit than risk.


We must get her to the hospital right away! They can reach inside to take the placenta out and stop the bleeding.
Why can't you do it?
It is much too dangerous! It is safer in the hospital.
I am going to have to reach inside to get the placenta out.
Isn't that dangerous?
DISINFECTANT
Yes, very! But the road is washed out by the rain — and there is no way to get help before she bleeds to death.

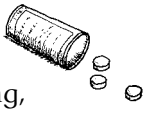
Types of medicine

Around the world, people use many different ways of healing:

- **Traditional medicine** (also called folk medicine): These ways of healing have been passed down from older healers to younger ones for many generations. Traditional ways of healing use massage, plant medicines, and communication with the spiritual world.

  Traditional medicines, particularly home remedies, can be very effective. They are often the safest, easiest, and least costly treatments for most health problems. And when money runs out, or outside aid groups leave, the plants, massage techniques, and other traditional ways of healing will still be here.

  Many traditional medicines have been tested using science. Testing has shown that some traditional medicines work well and others do not, or they only work because people's belief in them is strong. Some traditional medicines are harmful or dangerous.



- **Western medicine:** This system of healing relies on scientific testing, manufactured medicines (drugs), and surgery to treat health problems.
- **Non-Western systems** like acupuncture, ayurveda, or homeopathy: These systems of healing may have been used for thousands of years, are taught in books and schools, and may have been tested using science. Many of these systems also use plant medicines.

One person may use several of these ways of healing.

There is not enough space in this book to fully describe every system of healing. What is important to remember is that each type of healing has benefits, and that any kind of medicine must be used with care.

Western medicine

Western medicine, when used correctly, can save lives. And **Western medicine is usually the best treatment for emergencies**. For example, when a woman is bleeding heavily after a birth, there may be plant medicines in your area that can slow her bleeding. But Western medicines often work better and more quickly — they are more sure to save a bleeding woman's life.

Use Western medicines correctly

Most Western medicines have been carefully tested by science. Western medicine is usually very effective at treating problems. But Western remedies are often expensive, some have side effects, and in many cases they are not necessary. Most basic health problems could be treated just as well with traditional or home remedies, or just by waiting.

Using any medicine when it is not necessary, or using too much, can cause serious health problems. For example, some people believe that only an injection will help them when they are sick. These people would usually get better if they did nothing, and in many cases, unnecessary injections have caused abscesses or have passed disease (like HIV) when given with unsterilized needles. So although medicines can save lives, they must be used correctly.

Don't you think he needs an injection?
No. All he has is a cold. Let him rest, give him good food and lots to drink. Strong medicine won't help and might even harm him.

Take time to explain why medicines are not needed.

This book is mostly about Western medicine

This book mostly teaches how to use Western methods of healing. There is one main reason for this: Western medicines are available in most parts of the world. We do not know enough, nor do we have enough room to explain how to use the millions of traditional plants and ways of healing that are used around the world. Therefore, please use the back of this book to write down the traditional methods that you use. And if you translate or adapt this book, be sure to include your local ways of healing. It is very important to share these traditional ways of healing so that they are not forgotten!

Choosing a medicine that is safe and helpful

Before you give a medicine (traditional or Western), you should be confident that it is safe and helpful. To know if this is true, think about (and ask others) these questions:

- What is it used for?
- What happens when you use it?
- How often does it help make a problem better?
- What side effects or other problems does it cause?

When you are trying a treatment for the first time, use it alone, not mixed with other treatments. That way you will know if it works, and if it causes problems.
See page 463 to learn more about using medicines safely.

Medicine and greed

Sadly, some healers and health workers are motivated by greed. In order to make money, they may recommend a treatment that is not necessary, that does not work, or even one that is dangerous. Some healers rely on the respect others have for them to sell potions or medicines that do not really work.

Some companies that make and sell medicines use their reputations to mislead, too. When drug companies act in this way, whole communities can be put in danger. For example, a US drug company named Eli Lilly used to make a medicine called **diethylstilbestrol** (DES). DES was supposed to help prevent miscarriages. In fact, DES did not prevent miscarriages. It caused birth defects and cancer. Eli Lilly knew that the drug might cause these problems but kept selling it anyway. And even after the drug was made illegal in the US, it was still sold in other countries.

Know your limits

Know when to do nothing

In this book, we talk mostly about how to solve health problems. This is important. But in many cases, the best thing to do for a woman in labor is nothing! A woman who is healthy is likely to have a healthy and happy birth. Most births go well.

Doing unnecessary procedures can cause serious problems. Respect the process of birth. **When all is going well, simply watch and wait.**

Know when to get help

No matter how skilled you are, there will be times when you need help. Knowing when to get medical advice, when to enlist the support of another midwife, or when to send a woman to a doctor or medical center, is a skill that every midwife must try to master.

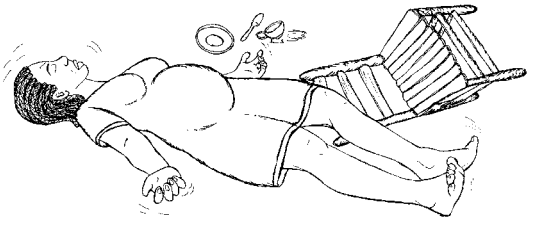
It can be hard to know when to get medical help. Hospitals and medical centers are often expensive or far away. Many women are afraid to go to them. A woman with a small problem may want to stay home. She may not want to go to a medical center unnecessarily. But if she stays at home without help, the problem could get much worse.

If you know a woman is having a problem like hemorrhage, infection, or pre-eclampsia, do not delay — get medical help. The sooner you go, the better her chances of recovery. Sometimes you may have to rush, sometimes you may not. If labor is long, for example, and you live and work very far from a medical center, you must start your journey early, before the problem is serious. If the medical center is only across the road, you have more time.

Deciding when to get help can be difficult. When in doubt — get medical help.

Know when to take action at home

Midwives who work very far from medical care must also sometimes give treatments that are better done in a medical center or hospital — because the woman needs the treatment right away. For example, if a woman in an isolated village has a seizure from eclampsia, her midwife should give her magnesium sulfate, a drug that is not usually safe to give at home. Then the midwife should take the woman to a medical center right away, because both the seizure and the magnesium sulfate are very dangerous.



WARNING! In this book, we explain how to do some procedures that can be dangerous if they are not done correctly, such as: how to do a pelvic exam, how to insert an IUD, or how to sew a tear.

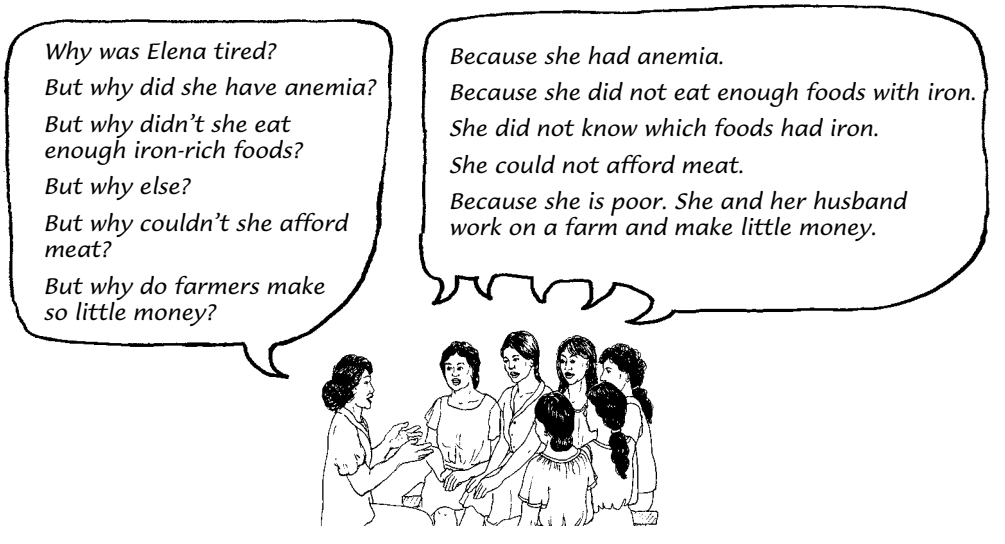
It is not enough to read about these procedures. **Before you do many of the procedures in this book, first watch other experienced health workers doing them. Then practice while someone with experience and training watches and helps you.** Only after you have practiced many times in this way is it safe for you to do these procedures on your own.

Finding root causes of health problems

As a midwife, you must find and treat the immediate causes of health problems. For example, think again about the story of Celeste and Elena. The immediate cause of Elena being tired was her anemia. If she eats more iron-rich foods or perhaps takes iron pills, her anemia will probably get better. By looking at the immediate causes, we can help people feel better or save their lives, especially in emergencies.

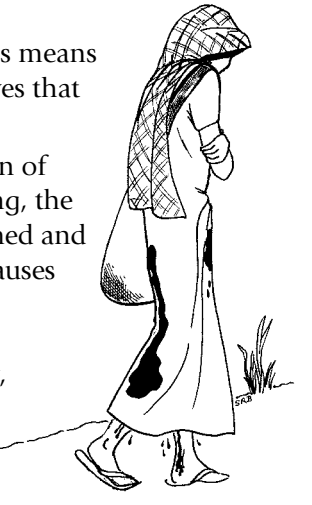
Treating the immediate cause is very important. But if we only treat the immediate cause, the problem may not truly be solved. It may come back, or it may affect others in the community. Sickness usually results from a combination of causes — direct causes, like germs or lack of iron, and less direct root causes that may be social, economic, or political. By finding these root causes, you can prevent problems from happening again.

In the case of Elena, there are many root causes of her problem. Celeste could probably figure out some of those causes herself. Better yet, she and Elena could meet with a group of people from the community to help think about the problem, because anemia is not just Elena's problem, it is a community problem.


Why was Elena tired?
But why did she have anemia?
But why didn't she eat enough iron-rich foods?
But why else?
But why couldn't she afford meat?
But why do farmers make so little money?
Because she had anemia.
Because she did not eat enough foods with iron.
She did not know which foods had iron.
She could not afford meat.
Because she is poor. She and her husband work on a farm and make little money.

After you have asked everyone "why" in this way for some time, you will find that there are many reasons why Elena had anemia. This exercise also shows why anemia is not just a problem for Elena but for most of the women in the village. Indeed, it is a problem for most women in most villages and poor communities around the world.

Look deeply to prevent more problems



Finding the many root causes of health problems means looking hard at the different parts of people's lives that contribute to the problem.

For example: A fistula is a terrible complication of some births. When a labor goes on much too long, the tissue inside a woman's vagina can become crushed and break open, leaving a hole to her bladder. This causes serious health problems and constant leaking of urine. To prevent a fistula, simply prevent a long labor. If a woman is in labor for more than a day, bring her to a medical center or hospital.

But by looking more deeply at the many causes of a long labor, we can do more to prevent fistula and other related problems.

- Young girls who do not eat well often grow up to have small bones (including small pelvises). An abnormally small pelvis can cause a long labor. Some young girls do not eat enough because their families cannot afford food. Some are not fed enough because they are not considered as important as boys.
- Some girls have children too young. Young girls have long, complicated labors because their bodies have not fully grown. Girls might marry and have children early because it is the custom of their communities or because their parents are poor and cannot care for them. Or both.
- Women in bad health are more likely to have long, complicated labors. Anyone can have health problems, but those who do not have access to basic health care are in the greatest danger.
- Rural and poor women cannot easily get medical help in an emergency.

To prevent fistulas, must we simply get women to hospitals faster, or can we also work to change the conditions that cause long labors, like poor nutrition of young girls and too-early marriage and childbirth? How can we work to stop the root causes of these problems — poverty and unfair treatment of women and girls?

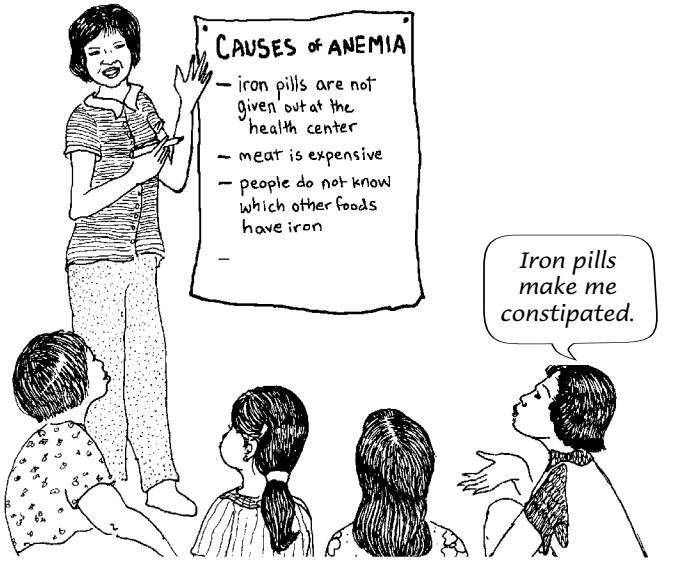
Make change in your community to prevent health problems

Most deaths and injuries from pregnancy and childbirth can be prevented by looking at and treating root causes. But to do so, a community must look beyond the experiences of individual women. Look at the common dangers that affect all women in pregnancy and birth. And use the skills of every community member to protect women's health.

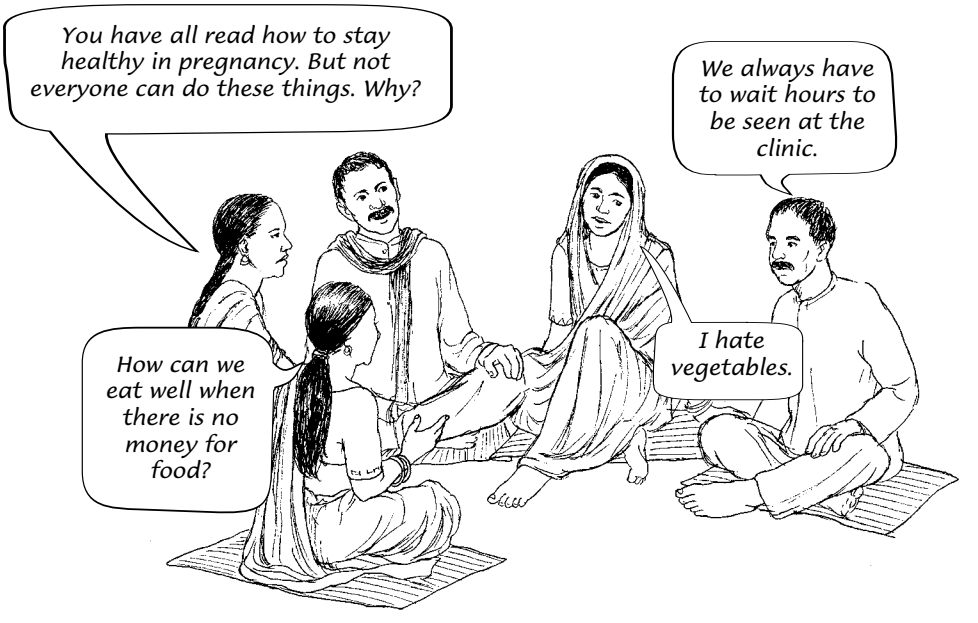
Midwives, who are most experienced with birth, can tell others in the community why women are dying and being injured during birth. Families, midwives, and other health workers and community members can work together to make changes, small and large, to improve health for all. When everyone in the community becomes involved with health, we can do much more than one midwife alone.

How to start

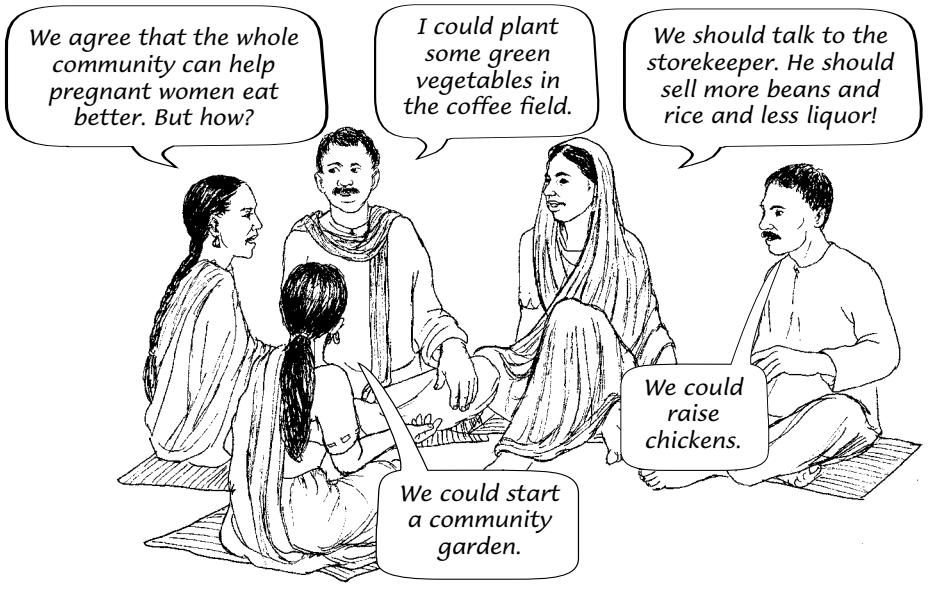
Lack of healthy food, dirty drinking water, lack of transportation in emergencies, and alcohol abuse are a few of the problems that contribute to serious health problems for women. These can all be addressed when they are not considered individual problems and when the whole community works together for change. But it can be difficult to know where to start. A good first step is to meet with community members to talk. If you teach birth classes to pregnant women, meet with other midwives, or are a member of a social or church group, you can use that group to solve problems.


CAUSES of ANEMIA
– iron pills are not given out at the health center
– meat is expensive
– people do not know which other foods have iron
–
Iron pills make me constipated.

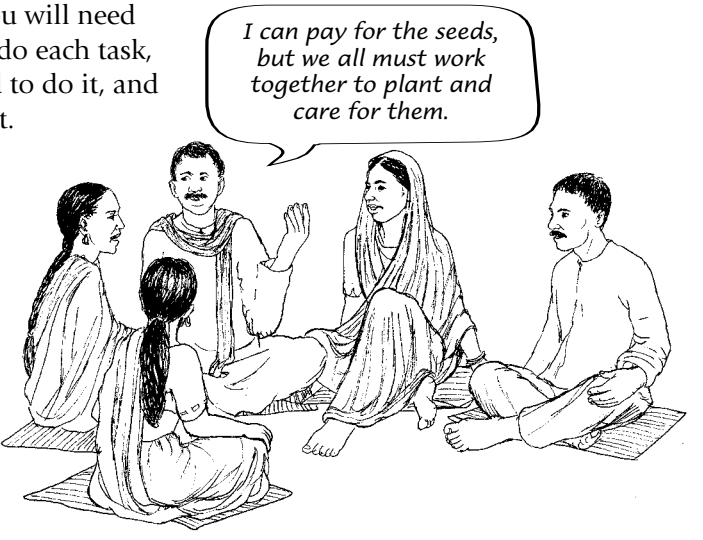
First, **name the problems** you are facing.


You have all read how to stay healthy in pregnancy. But not everyone can do these things. Why?
We always have to wait hours to be seen at the clinic.
How can we eat well when there is no money for food?
I hate vegetables.

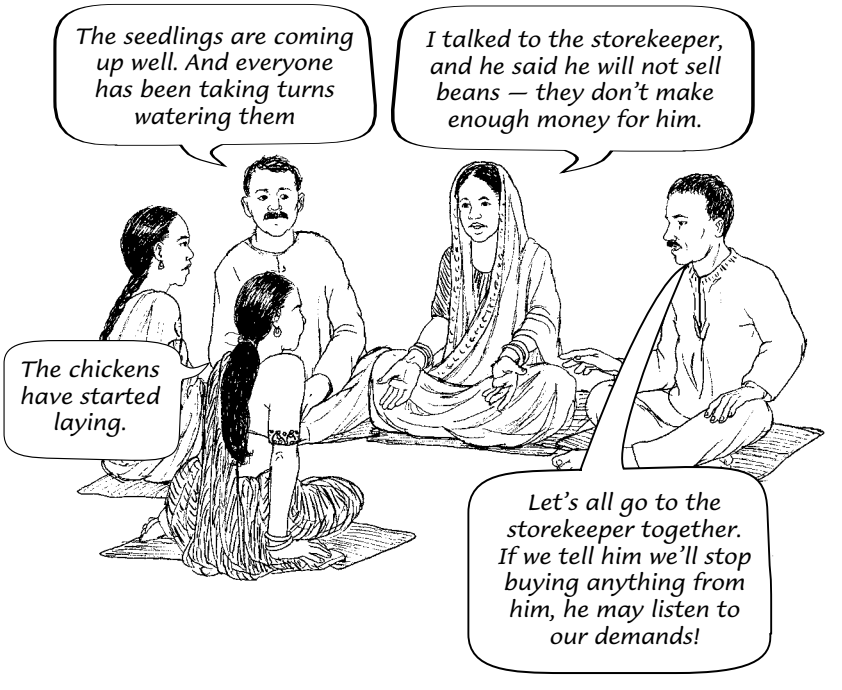
After you have named some of the problems in the community, **choose what to work on first**. It might be the problem that is the most common, the problem that causes the most serious harm, or the problem that can be most easily solved. List every idea the group can think of to work on this problem. Then focus on solutions that someone in the group can make happen.


We agree that the whole community can help pregnant women eat better. But how?
I could plant some green vegetables in the coffee field.
We should talk to the storekeeper. He should sell more beans and rice and less liquor!
We could raise chickens.
We could start a community garden.

Make a plan. You will need to decide who will do each task, what they will need to do it, and when they will do it.



Be sure to **meet again** to talk about how the plan is going.


The seedlings are coming up well. And everyone has been taking turns watering them
I talked to the storekeeper, and he said he will not sell beans — they don't make enough money for him.
The chickens have started laying.
Let's all go to the storekeeper together. If we tell him we'll stop buying anything from him, he may listen to our demands!

Midwives can make change

Midwives and the women they serve may face any kind of health problem, from simple ones like nausea to serious ones like a bad hemorrhage. But when midwives work carefully to discover causes, and use wise judgment and support from the community, they can solve nearly any problem, even many of the most difficult ones.

Chapter 3
A woman's body in pregnancy

In this chapter:

A woman's sexual and reproductive parts 27

How women become pregnant 29

How the baby grows 30
Infertility 30
Menopause 31

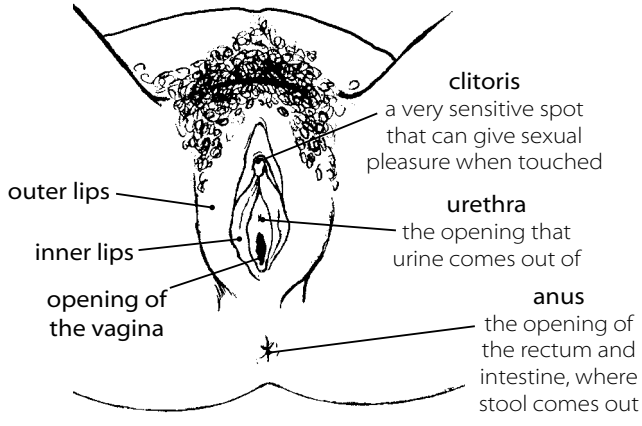
A woman's body in pregnancy

CHAPTER 3

In this chapter, we describe the parts of a woman's body that are most affected by sex, pregnancy, and birth. We call these parts sexual or reproductive parts. We also explain how pregnancy happens, and how a woman's body changes during pregnancy.

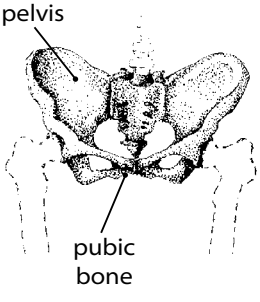
A woman's sexual and reproductive parts

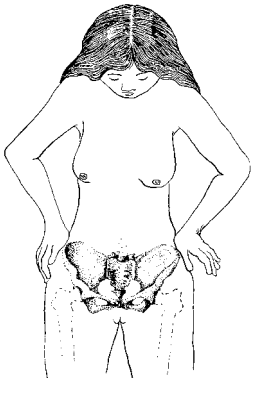
A woman's genitals (vulva)


clitoris
a very sensitive spot that can give sexual pleasure when touched
outer lips
urethra
the opening that urine comes out of
inner lips
opening of the vagina
anus
the opening of the rectum and intestine, where stool comes out

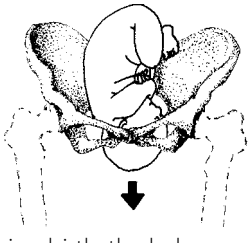
The pelvis

The bones below the belly are called the pelvis.

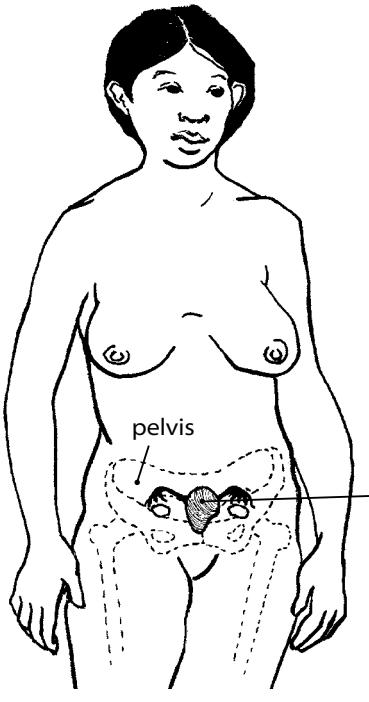




The pelvis is shaped like a bowl with a hole in the bottom.



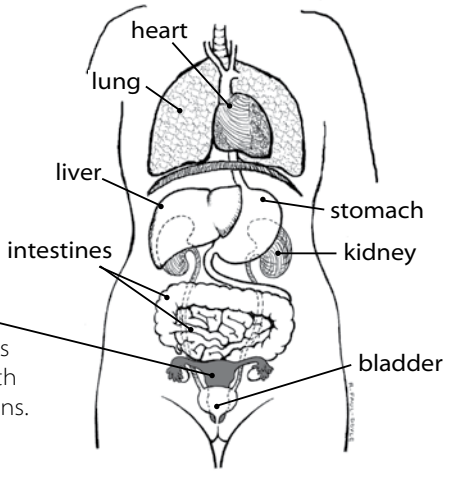
During birth, the baby passes through the hole to get out.



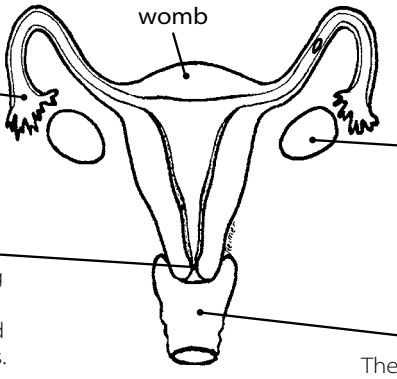
The womb, tubes, and ovaries

The womb (uterus) is a hollow muscle. It sits inside the pelvis. Monthly bleeding comes from the womb, and the womb is where the baby grows during pregnancy.

The **womb** is in the woman's belly along with her other organs.



If you could see the womb inside a woman's belly, it would look like this:



tube
The tubes connect the womb to the ovaries.

ovary
The ovaries hold tiny eggs. Some people call eggs, "the seeds of the woman."

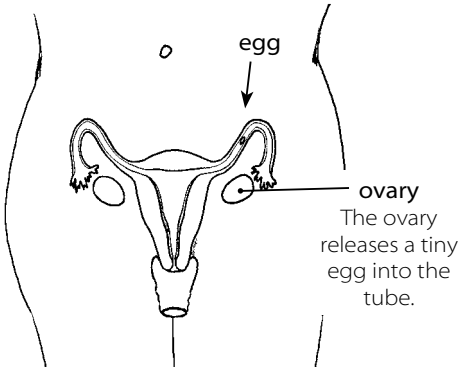
cervix
The cervix is the opening of the womb into the vagina. It is usually closed and plugged with mucus.

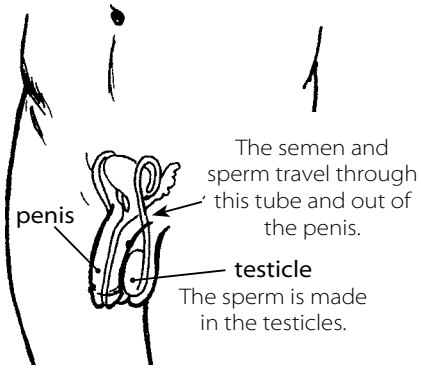
vagina
The vagina is the opening in the outside of the woman's body that leads to the cervix and womb.

How women become pregnant

About once a month, a woman's ovary releases a tiny egg. The egg moves down the tube and into the womb.

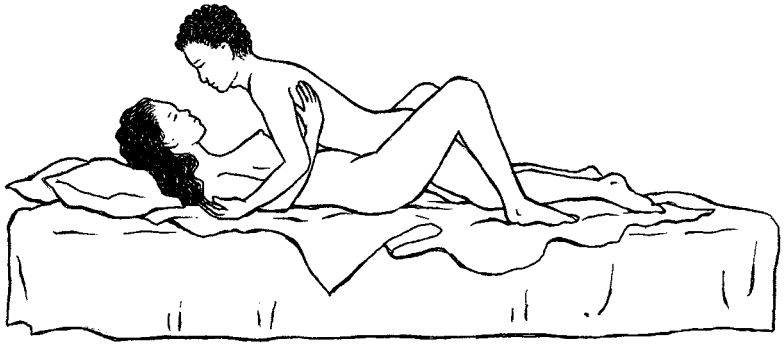
Men make tiny cells called sperm inside of their testicles. When a man ejaculates (comes), a fluid called semen comes out of his penis. Millions of sperm cells come out in that fluid.





If a man ejaculates inside a woman's vagina during sexual intercourse, his sperm cells can travel through her vagina, through her womb, and into her tubes.

If the woman and man have sexual intercourse near the time of the month that the woman's egg is moving down her tube, one of the man's sperm cells may meet her egg. The egg may then plant itself in the lining of the womb. If this happens, the woman becomes pregnant.



Every month that the woman does not become pregnant, the bloody lining of her womb comes out about 2 weeks after she releases the egg. We call this monthly bleeding, or menstruation.

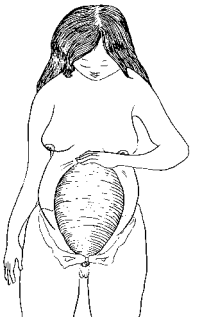
How the baby grows

After a sperm and egg join inside a woman's womb, they combine to become one group of cells that multiply and grow into a baby.

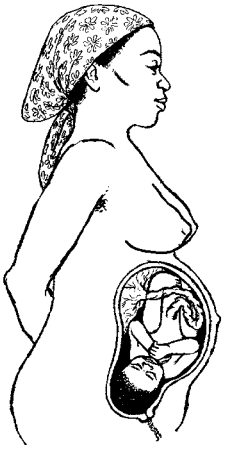
The mother's blood contains oxygen from the air she breathes and nutrition from the food she eats. Her blood then passes air and food to the baby through the cord and placenta.

During the first 3 months of pregnancy, it is hard to see much happening from the outside. But inside the womb, the baby is forming organs, bones, and other body parts. During these early months, it is especially important that a pregnant woman avoid poisonous chemicals, unnecessary medicines, and alcohol, which can all harm the developing baby. As the baby grows, so does the womb. The mother can see her belly growing and can feel the womb by putting a hand on her belly.

When a woman is about 5 months pregnant, she can feel the top of her womb at her bellybutton.



When a woman is 9 months pregnant, she can feel the top of her womb just below her ribs.



This is what you would see if you could look inside a pregnant woman's womb.

Inside the womb, the baby floats in a bag of fluid called amniotic fluid (the bag of waters). The baby is connected to the placenta (afterbirth) by a cord, and the placenta is attached to the inside of the mother's womb.

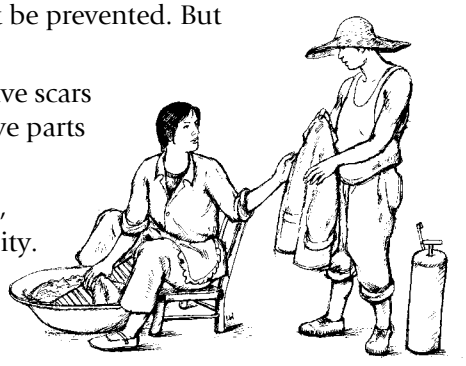
Infertility

When a person has difficulty having a child, he or she is infertile. For a couple that wants to have children, infertility can bring sadness, anger, or shame.

Often the woman is blamed when she does not become pregnant. Even if the couple gets medical help, many doctors will check only the woman for fertility problems. But often the man is the one who is infertile. Neither men nor women should be blamed for infertility. And both need support during this difficult time.

Infertility has many causes. Some cannot be prevented. But many causes of infertility are preventable.

- Sexually transmitted infections can leave scars inside a man's or woman's reproductive parts that prevent pregnancy.
- Illnesses such as diabetes, tuberculosis, malaria, and mumps can cause infertility.
- Dangerous chemicals from pesticides, cleaning products, or factories can get into the air, water, or food. These chemicals can make it difficult for a woman to get pregnant, or can harm the growing baby.



Even washing clothes that have dangerous chemicals on them can harm fertility.

- Smoking, chewing tobacco, drinking a lot of alcohol or using drugs can all harm fertility.

There are other causes of infertility that are not preventable. To learn more, look at a general health book like ***Where Women Have No Doctor.***

Menopause

When women grow older, they stop bleeding each month (menopause). They also stop producing eggs and lose the ability to become pregnant. This may happen suddenly, or slowly over 1 or 2 years. For most women, menopause happens when they are between 45 and 55 years old.

During menopause, many women have some of these signs:

- changes in monthly bleeding before it stops completely
- suddenly feeling very hot and sweaty (hot flashes)
- vagina becomes smaller and more dry
- sudden changes in feelings

Many women are relieved when they do not have to worry about pregnancy anymore. As elders, women can share the wisdom of their years of life experience.

Men make sperm through most of their lives, even when they are very old.

CHAPTER 4
Helping women stay healthy

In this chapter:

Eating well 33

Talking to women about food 34
Eat more food 34
Eat a variety of foods 34
Eat these 5 important vitamins and minerals every day 36
Ideas about food affect women's health 39
Eating well with little money 41

Caring for the body for good health 42

Keep clean 42
Care for the teeth and mouth 43
Exercise 43
Sleep, rest, and relax 44
Enjoy the pregnancy 44

Things to avoid during pregnancy and breastfeeding 45

Stay away from people with rubella and other sicknesses 45
Avoid taking medicines 45
Avoid smoking, alcohol, and other drugs 46
Stay away from chemicals and fumes 47

Helping women stay healthy

CHAPTER 4

A woman who eats well and takes good care of her body is much more likely to have a healthy pregnancy and healthy baby. In fact, the ways to stay healthy listed in this chapter can be used by women and their families to stay well throughout their whole lives.

Eating well

Eating well means eating **enough food** and eating **a variety of healthy foods**.

Eating well:

- helps a woman resist illness and stay healthy.
- keeps a woman's teeth and bones strong.
- gives a woman strength to work.
- helps the baby grow well in the mother's womb.
- helps prevent heavy bleeding after birth.
- helps a mother recover her strength quickly after birth.

Eating well helps a woman and her baby stay healthy and strong.

Problems from poor nutrition (not eating well)

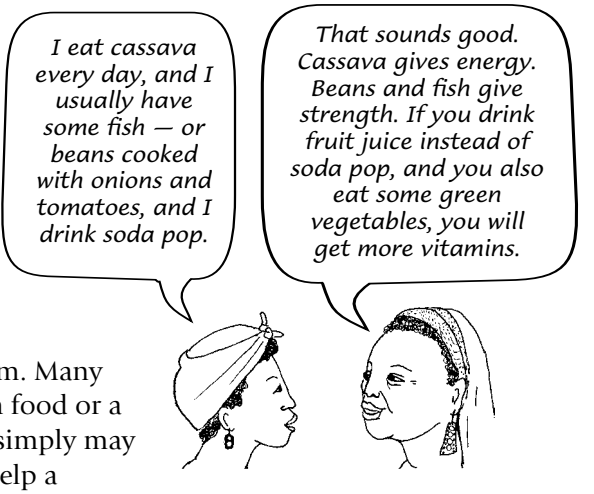
Poor nutrition can cause tiredness, weakness, difficulty fighting infections, and other serious health problems.

Poor nutrition during pregnancy is especially dangerous. It can cause miscarriage or cause a baby to be born very small or with birth defects. It also increases the chances of a baby or a mother dying during or after birth.

Talking to women about food

Talk to women about the food they eat. The earlier women start eating healthier foods, the better chance they have to stay healthy, to have normal births, and to have healthy babies.

To find out whether a woman is eating well, ask her what she usually eats, and how much. For example: "What did you eat yesterday?" Be sure to tell her what is healthy about what she eats. Then make a suggestion for how she could eat better.


I eat cassava every day, and I usually have some fish — or beans cooked with onions and tomatoes, and I drink soda pop.
That sounds good. Cassava gives energy. Beans and fish give strength. If you drink fruit juice instead of soda pop, and you also eat some green vegetables, you will get more vitamins.

Even if a woman knows the best foods for health, she may not eat them. Many families cannot afford to buy enough food or a wide variety of foods. Other women simply may not like the taste of some foods. To help a woman eat better, suggest healthy foods that she can and will choose to eat.

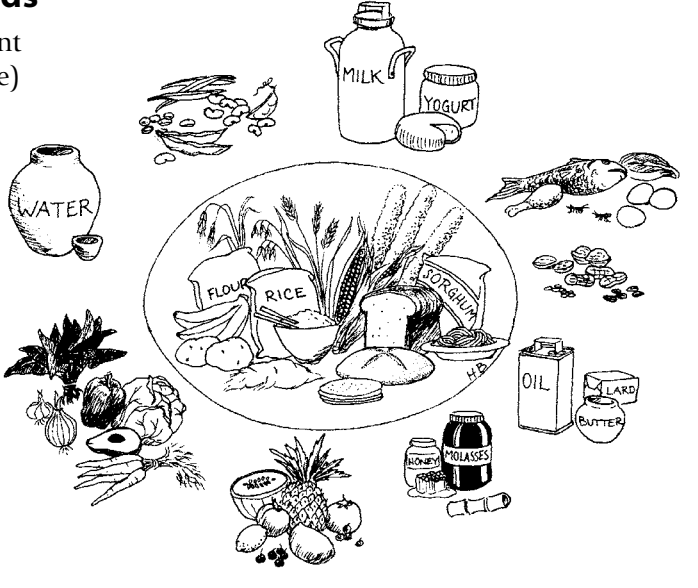
Eat more food

Pregnant women and women who are breastfeeding need to eat more than usual. The extra food gives them enough energy and strength, and helps their babies grow.

Some pregnant women feel nauseated and do not want to eat. But pregnant women need to eat enough — even when they do not feel well. Simple foods like chapatis, tortillas, or rice can be easier for these women to eat.

Eat a variety of foods

It is important for pregnant women (like everyone else) to eat different kinds of food: main foods (carbohydrates), grow foods (proteins), glow foods (vitamins and minerals), and go foods (fats, oils, and sugar), along with plenty of fluids.



For a healthier body, eat many kinds of foods.

Main foods (carbohydrates)

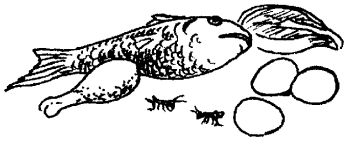
In most parts of the world, people eat one main food at each meal. This main food may be rice, maize, wheat, millet, cassava, taro, plantain, breadfruit, or another low-cost starchy food. These foods give the body energy. But to grow and stay healthy, the body needs other types of food too.

Grow foods (proteins)

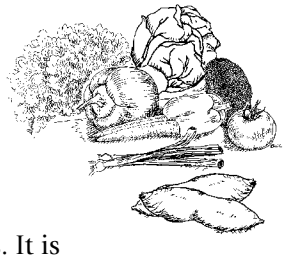
Grow foods contain protein, which is needed for the growth of muscles, bones, and strong blood. Everyone needs protein to be healthy and to grow.

Some grow foods high in proteins:

- legumes (beans, peas, and lentils)
- nuts and seeds
- meat, fish, and insects
- eggs
- cheese, milk, and yogurt



Note: Meat, fish, and cheese are nutritious foods but they can carry parasites or disease when they are eaten raw. Pregnant women should only eat fish, meat, or cheese that is well cooked or pasteurized. Fish, especially fatty fish, can also contain mercury and other poisons because water is often contaminated. Pregnant women should avoid fatty fish, to be safe.



Glow foods (vitamins and minerals)

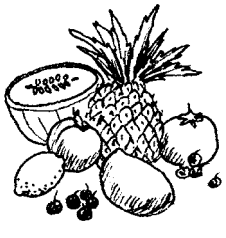
Glow foods contain vitamins and minerals, which help the body fight infection and keep the eyes, skin, and bones healthy and strong.

Fruits and vegetables are high in vitamins and minerals. It is important for women to eat as many different fruits and vegetables as they can.

Go foods (sugars and fats)

Go foods contain sugars and fats, which give the body energy. Everyone needs these foods to be healthy.

These days, many people eat more sugars and fats than they need. That is because more people drink sugary soda pop, or eat foods that come from packages instead of foods made at home. These packaged, sugary foods are expensive and not as healthy. They also damage the teeth. It is better to eat go foods that are natural, not packaged.

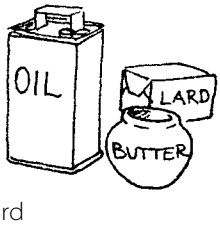


Some healthy go foods high in sugars:

- fruit
- honey
- molasses

Some go foods high in fats:

- nuts and seeds
- avocados
- vegetable oil, butter, ghee, and lard
- fatty meat



Eat these 5 important vitamins and minerals every day

Pregnant and breastfeeding women need more of five vitamins and minerals — iron, folic acid, calcium, iodine, and vitamin A — than other people do. Pregnant women should try to get these vitamins and minerals every day because the baby needs them to grow and be healthy. Every pregnant woman needs enough for the baby and for herself.

Iron

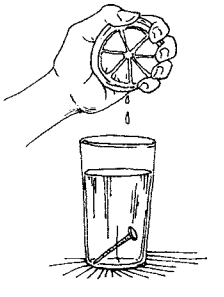
Iron helps make blood healthy and prevents anemia (weak blood, see page 116). A pregnant woman needs a lot of iron to have enough energy, to prevent too much bleeding at the birth, and to make sure that the growing baby can form healthy blood and store iron for the first few months after birth.

These foods contain a lot of iron:

- meat (especially liver, kidney, and other organ meats)
- poultry (birds)
- grasshoppers, crickets, and termites
- fish, clams, and oysters
- eggs
- beans, peas, and lentils
- sunflower, pumpkin, and squash seeds
- dark green leafy vegetables
- breadfruit
- yams
- hard squash
- blackstrap molasses

Other ways to get more iron:

- Eat iron foods with citrus fruits or tomatoes. The vitamin C in these foods helps a woman absorb iron into her system.
- Cook food in iron pots or add a clean piece of iron — like an iron nail — to the cooking pot. Only use a nail that you know is made of pure iron, not a mix of metals.
- Put a clean piece of pure iron, like an iron nail, in a little lemon juice for a few hours. Drink the juice mixed with clean water.



It can be difficult for a pregnant woman to get enough iron, even if she eats iron-rich foods every day. If possible, she should also take iron pills or iron syrup. These medicines may be called ferrous sulfate, ferrous gluconate, ferrous fumerate, or other names.

In many places health centers will give iron pills to pregnant women. Sometimes iron pills are combined with folic acid. The iron pills may make it hard for the woman to pass stool (constipation), and her stool may turn black. These problems should get better in a few days. (See page 76.)

Hookworm and malaria can cause anemia

Women with **hookworm** are likely to have anemia. Hookworm can easily be treated with mebendazole or albendazole, though these drugs should not be taken in the first 3 months of pregnancy. These drugs have not been tested enough to be sure that they are safe for women who are in the later months of pregnancy or who are breastfeeding. However, most doctors believe that the benefit of treating hookworm is greater than the possible harm of these medicines.

If hookworm is common in your community, ask your local health authority what treatment is recommended for pregnant women.

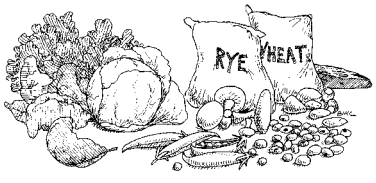
Malaria can also cause anemia and other serious problems in pregnancy. See page 98 for how to prevent or treat malaria.

Folic acid (folate)

Lack of folic acid can cause anemia in the mother and severe birth defects in the baby. To prevent these problems, it is most important for a woman to get enough folic acid before she gets pregnant and in the first few months of pregnancy.

These foods contain a lot of folic acid:

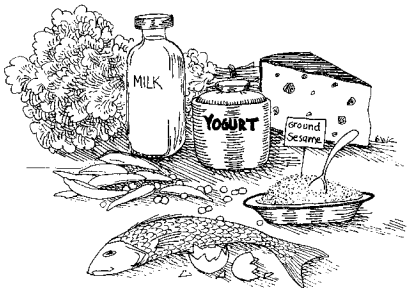
- dark green leafy vegetables
- meat (especially liver, kidney, and other organ meats)
- peas and beans
- sunflower, pumpkin, and squash seeds
- whole grains (brown rice, whole wheat)
- fish
- eggs
- mushrooms



Some women also take folic acid pills.

Folic acid pills

- take 0.5 to 0.8 mg (500 to 800 mcg) folic acid .....by mouth, 1 time each day



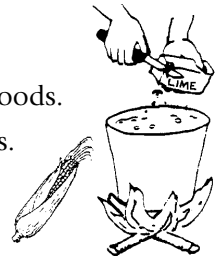
Calcium

A growing baby needs a lot of calcium to make new bones, especially in the last few months of pregnancy. Women need calcium for strong bones and teeth.

These foods contain a lot of calcium:

- milk, curd, yogurt, and cheese
- ground sesame (tahini)
- almonds
- green leafy vegetables
- yellow vegetables (hard squash, yams)
- shellfish
- lime (carbon ash)
- bone meal and eggshells

Women can also get more calcium in these ways:



- Soak bones or eggshells in vinegar or lemon juice for a few hours. Then use the liquid to make soup or eat with other foods.
- Add lemon juice, vinegar, or tomatoes when cooking bones.
- Grind eggshells into a fine powder and mix into food.
- Soak maize in lime (carbon ash) before cooking it.

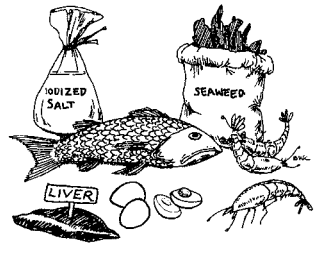
Iodine

Iodine prevents goiter (swelling of the throat) and other problems in adults. Lack of iodine in a pregnant woman can cause her child to have hypothyroidism (cretinism), a disability that affects thinking and brain development.

The easiest way to get enough iodine is to use iodized salt instead of regular salt.

These foods contain a lot of iodine:

- shellfish (like shrimp)
- fish
- seaweed
- egg yolks
- liver



If hypothyroidism or goiter are common in your area, find out if the local health ministry will give iodized oil by mouth or iodine by injection. If not, women can make iodine solution at home with polyvidone iodine.

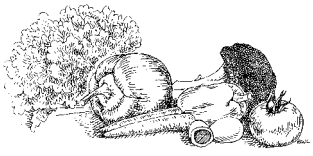
To make an iodine solution to drink

Add 1 drop of Lugol's iodine to 1 glass of clean drinking water or milk.

In places where goiter or cretinism are common, everyone except breastfeeding babies should drink 1 glass of this iodine solution every month of his or her life. This is especially important for children and pregnant women. Do not take more iodine than this. Too much is dangerous.

Store iodine at room temperature, and in dark containers to protect it from light.

Vitamin A



Vitamin A prevents night blindness and helps fight infections. Lack of vitamin A also causes blindness in children. A woman needs to eat plenty of vitamin A during pregnancy and while breastfeeding.

Dark yellow and green leafy vegetables and yellow fruits have vitamin A.

Along with eating healthy foods, women should drink plenty of clean water and other fluids every day. Fruit juices, coconut water, animal milks, and many herbal teas are all healthy fluids to drink.

Ideas about food affect women's health

Some beliefs about foods are harmful — especially when people believe that women should not eat as much as men do, or should not eat a variety of foods.

It is not safe for girls to be fed less than boys

Girls need as much food as boys — to grow and learn and work. If a girl does not get enough food, her bones may not grow well. This can cause serious problems during labor when the girl becomes a woman and has babies of her own.

When a woman must feed her family first, she may not get enough to eat

A woman may be taught to feed her family before herself. She eats only what is left and often does not get as much as others in the family. This is never healthy. And when a woman is pregnant, or has just had a baby, it can be very dangerous.

If the family will not help the woman eat enough, she may need to hide food, eat while she is cooking, or eat while her husband is out of the house.

Packaged and processed foods are rarely as good as homemade

People are eating more and more packaged and processed foods. Some people like the taste, and some people think that packaged foods are healthier.

Packaged foods may be advertised as the healthiest choice, but this is rarely the truth! Advertisers will say anything just to sell products. Some packaged foods are fortified with vitamins and minerals, but our bodies cannot use these added-on vitamins as well as our bodies use the vitamins that we get from eating whole, fresh foods. Most packaged foods contain more sugar, salt, and fat than we need. Many are full of chemicals to keep the food looking and tasting fresh, and some of these chemicals have not been carefully tested to be sure of their safety.

Avoiding foods can be dangerous

In many places, pregnant women are told not to eat certain foods. In these communities, people believe that these foods will harm the baby. At the same time, a doctor or a midwife may tell a woman it is important to eat those same foods. This can be confusing for the woman.

Avoiding foods can be dangerous. For a woman to be healthy during and after pregnancy, she must eat a wide variety of foods — main foods, grow foods, glow foods, and go foods. Eating only one kind of food is not enough.

If a woman does choose to avoid certain foods, make sure she is getting enough of each kind of food, and enough vitamins and minerals from her food.

Everyone needs to eat a wide variety of foods.

Finding creative answers

Beliefs about food can be hard to change. But you may find ways to help women eat better without working against their beliefs. This example is based on a true story:

Maria is a midwife in Guatemala. She and her people believe that some foods are "hot" foods, and some foods are "cold" foods. They believe that pregnant women should not eat cold foods.

To Maria and her people, beans and eggs are cold foods (even when they are cooked). But Maria knows that beans and eggs are good, low-cost ways for pregnant women to get the protein and iron they need.

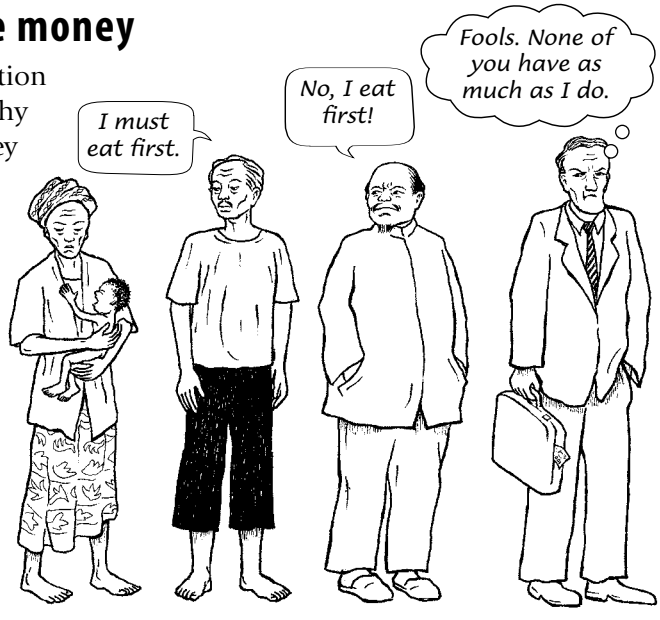
Maria wants pregnant women to eat well, but they will not eat cold foods. And Maria too thinks that cold foods may not be good for pregnant women to eat. Her solution is simple and smart. She tells pregnant women to eat beans and eggs with a little hot pepper or another hot food. This way, the foods will not be cold anymore.

Maria has found a creative answer to a problem. She has found a way for pregnant women to eat better and has shown respect for the beliefs of her community.

Eating well with little money

The biggest cause of poor nutrition is poverty. Rich people in wealthy countries can buy any foods they want, while those in poor communities cannot. And within each community, some can afford to eat better than others. A few people own most of the land or businesses, and make money off of the work of others. Even within each family, a father may eat better than his wife or children.

To learn more about the root causes of poverty and ways to work for change, see the books ***Where There Is No Doctor*** and ***Helping Health Workers Learn***.



The problems of hunger and poor nutrition will not be solved until we all share with each other fairly.

Even a very poor family can eat better by spending money wisely. A father who buys alcohol and tobacco could instead buy nutritious food or he could buy a hen to lay eggs. A mother who buys her children sweets or soda pop could instead buy eggs, beans, or other low-cost healthful foods.

Here are some ideas that families can use to eat better with little money:

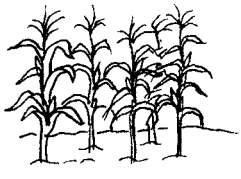
Breast milk

Breast milk costs nothing, and has all the nutrition a baby needs. Young children do not need fortified milks — especially if they are still breastfeeding and eating other foods.

Beans, peas, and lentils

Beans and other legumes have a lot of protein and vitamins, and they usually do not cost much. They have even more vitamins if they are sprouted before being eaten.

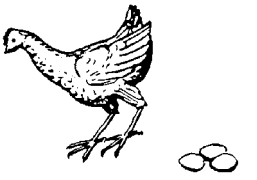
Grow beans this year.



Next year, maize.

Planting legumes makes soil richer. Other crops will grow better in a field where legumes once grew.

Less expensive meats and animal products



Blood and organ meats like liver, heart, and kidney have a lot of iron and may cost less than other meats. Fish and chicken are as healthy as other meats, and usually cost less — especially for a family that fishes or raises their own chickens.

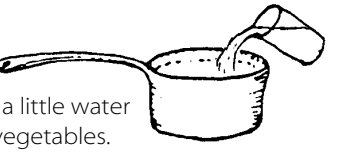
Eggs have a lot of protein, iron, and vitamin A. Eggs give more protein for less money than almost any other food.

Whole grains

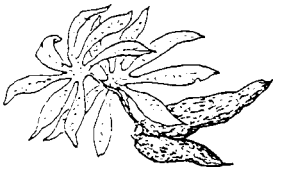
Grains, like wheat, rice, and corn, are more nutritious when they have not been refined (processed to take out the color). Taking out the color takes out healthy things too. White bread and white rice have less vitamins, minerals, and proteins than brown bread or brown rice.

Vegetables and fruits

When vegetables are boiled or steamed, some of the vitamins from the foods go into the cooking water. Use this water to make soups.



Use only a little water to cook vegetables.



The outside leaves of plants are usually thrown away, but sometimes they can be eaten. The leaves of the cassava plant have more vitamins and protein than the root.

Many wild fruits and berries are rich in vitamins and natural sugars that give energy.

Avoid buying vitamins

Most of the time people can get enough vitamins and minerals by eating a variety of foods. Buying vitamins is usually a waste of money.

But pregnancy and breastfeeding are times that women may need to take extra vitamins — more than what they can get from food. Vitamin pills work as well as vitamin injections, and cost less.

Caring for the body for good health

For a woman to stay healthy in pregnancy — or anytime — it is wise for her to keep clean, exercise, and get plenty of rest.

Keep clean

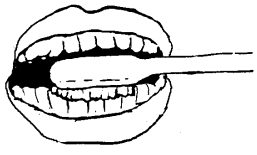
Keeping the body clean helps prevent infections. If possible, the mother should regularly wash her body, including her genitals, with clean water.

Care for the teeth and mouth

Healthy teeth help a person's whole body be healthy, and care for the teeth is especially important in pregnancy because unhealthy teeth can lead to gum infections. This can cause a baby to be born too early.

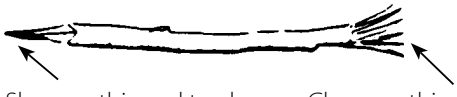
In some places there is a saying, "Have a baby, lose a tooth." But this does not have to be true! A woman can protect her teeth in these ways:

- Eat calcium-rich foods.
- Avoid sweets, candy, and soda pop.
- Clean the teeth after every meal with a soft brush, tooth stick, or rough cloth. Toothpaste, salt, or plain water on the brush are helpful but not necessary.



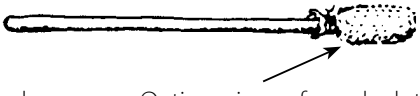
Clean the surfaces of all the teeth, between the teeth, and the gums every day.

To make a tooth-cleaning stick:



Sharpen this end to clean between the teeth.

Chew on this end and use the fibers as a brush.



Or tie a piece of rough cloth on the end of a stick.

If possible, everyone should see a dentist or dental worker regularly.

Exercise

Exercise makes a woman's body stronger. During pregnancy, exercise helps her body get ready for labor and birth. Exercise can also help a woman have energy and feel happy.

Many women get all the exercise they need by hauling water, working in the fields, milling grain, chasing after children, and walking up and down hills.

Women who work sitting or standing (in offices, stores, or factories, for example) or who do not move around much during the day usually need more exercise. They can take long walks, dance, do physical work, or find another way to move.

staying well

Squeezing exercise (Kegels)

The squeezing exercise strengthens muscles in the pelvis and vagina. Doing the squeezing exercise can help to:

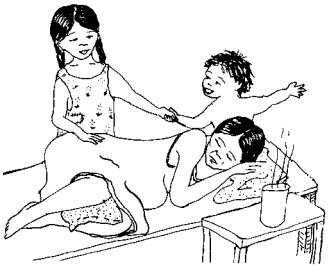
- prevent leaking urine.
- prevent the vagina from tearing during birth.
- speed healing after birth.
- increase sexual pleasure.

A woman can learn this exercise while she is urinating. As the urine comes out, she should squeeze the muscles in her vagina until the urine stops. Once she learns how to squeeze these muscles, she should only do it when she is not urinating.

The squeezing exercise is helpful at all times, not just during pregnancy. If possible, women should practice at least 4 times a day, doing at least 10 squeezes each time.

Sleep, rest, and relax

Sleep and rest help women stay strong and resist sickness. Getting enough rest also helps prevent high blood pressure, sick babies, and other problems.



Many women must work all day in fields, factories, or stores. Then they must also haul water, find fuel, mill grain, cook, clean, and care for their families. This can be very hard at any time. It can be especially hard for pregnant women who need more rest than usual.

Explain to pregnant women that it is important for them to rest for a few minutes every 1 or 2 hours. Help the woman's family understand why it is important for her to rest and sleep.

Enjoy the pregnancy

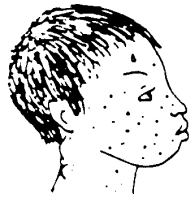
If women have enough food, rest, and care, pregnancy can be a wonderful time.

Many communities have rituals and practices that honor a pregnant woman. People help her with her work, bring her special foods, or give her massages or gifts. Customs like these help a woman get the food and rest she needs, and help her feel good about herself and her pregnancy.

Things to avoid during pregnancy and breastfeeding

Sicknesses, drugs, and poisonous chemicals are not healthy for anyone. They are particularly dangerous in pregnancy and while breastfeeding. The following things are the most dangerous in the first 3 months of pregnancy, but they can be dangerous at all times.

Stay away from people with rubella and other sicknesses



Pregnant women should stay away from people with sicknesses or rashes.

It is best for pregnant women to stay away from people who are sick. This will help protect them from becoming sick themselves.

Some sicknesses are particularly dangerous to pregnant women or their babies. Rubella (German measles) is one sickness that can cause serious birth defects or disabilities in the baby, including deafness and heart problems, and can even cause death.

Avoid taking medicines

When a woman takes medicines, they pass through her blood to her baby. Medicines that are safe for a grown woman or even a child can be dangerous to the tiny baby inside the womb.

Cough syrups, pain relievers, some modern medicines, and some plant medicines can all be dangerous. Some of them can cause birth defects or disabilities in the baby, including disabilities that affect thinking or the brain.

Pregnant women should only take medicines that are safe in pregnancy and that are truly needed.

If possible, pregnant women and women who are breastfeeding should not take medicines. If a woman is sick and needs medicine, find out if this medicine is safe in pregnancy or while breastfeeding. Look in the green medicine pages at the end of this book (see page 463) or ask a doctor if the medicine is safe. If plant medicines are used in your community, try to learn which ones are safe during pregnancy and breastfeeding.

Most of the medicines we recommend in this book are safe to take during pregnancy or breastfeeding. (If they are not safe, we will include a warning about when they can be dangerous.) But even drugs that are safe should only be taken when they are truly needed. Rest, water, and healthful foods are often enough to cure sicknesses and other problems.

Avoid smoking, alcohol, and other drugs

Cigarette smoke, alcohol, and other drugs are all harmful to the mother. When a woman smokes, drinks, or takes drugs, they also pass through her blood to her baby.

Smoking is dangerous for anyone. It can lead to serious problems including cancer. When a pregnant woman smokes, or even when she breathes the smoke from someone near her, her blood vessels get smaller and do not carry as much air or food to her baby. Because of this, babies of women who smoke are more likely to be small or sick.

Drinking a lot of alcohol can be dangerous for anyone. Heavy drinking can lead to many illnesses including serious problems of the liver. When a pregnant woman drinks, even just 1 or 2 drinks a day, her baby can have birth defects or disabilities that affect the brain.

Some drugs, particularly opium, heroin, cocaine, and barbiturates, are very addictive and dangerous. When a pregnant woman takes these drugs, her baby can be born with a drug addiction or with other serious health problems.

Whatever a mother puts into her body passes to her baby.

If you work with a woman who may be addicted to alcohol or other drugs, try to find help for her. She may be able to stop if she understands the risks to her and her baby. Advise her to stay away from people who are smoking, drinking, or taking drugs.

You may be able to help her find others in your community who have stopped using alcohol or drugs and who meet to support each other. The book ***Where Women Have No Doctor*** has more ideas about how to help someone stop abusing alcohol and drugs.

Stay away from chemicals and fumes

Strong chemicals used for cleaning, and poisons used to kill pests in the fields or at home, are dangerous for everyone. They are especially dangerous to women who are pregnant or breastfeeding. These chemicals can cause miscarriage, infertility, birth defects, cancer, and other illnesses.

Any chemical with a strong smell is probably not safe. Many dangerous chemicals have no smell at all.

If possible, everyone should avoid these dangerous chemicals. But a pregnant woman should have no contact with them. She should not use them herself or breathe chemical fumes or dust. Her family should not store food in containers that once had chemicals inside. Tiny amounts of the chemicals may be left in the container even after it is washed — enough to harm a person's health!

Poisonous chemicals include:

- pesticides (chemicals that kill bugs or weeds) used in farming.
- pesticides used at home to kill bugs or rodents.
- strong cleaners and solvents.
- some kinds of glue and paint.
- gasoline, oil, and other fuels.

Families should try not to use chemicals at all. But many people who work with chemicals have no choice. It is part of their job at a factory, on a farm, cleaning, or somewhere else. People who use chemicals at work may be able to talk to the other workers about the problem. Maybe all the workers together can talk to the owner about using fewer chemicals or using safer ones.

If someone in the family must work with chemicals, he or she should:

- use as few chemicals, and as little of each one, as possible.
- keep chemicals away from places where food is stored.
- keep chemicals away from children.
- avoid breathing chemicals. Wear a mask or at least cover the mouth and nose, and try to work where there is a good air flow.
- avoid getting chemicals on the skin. Wear gloves, long sleeves, and closed shoes.
- after working with chemicals, change clothes before coming in the house. Pregnant women should not wash these clothes.

CHAPTER 5
Preventing infection

In this chapter:

Preventing infection saves lives 49

Infection is caused by germs 49
How germs get into the body 50

Prevent infection by keeping germs away 52

Clean your hands and wear protective clothing 53

Wash your hands often 53
Wear gloves 54
Protect yourself from infection 56

Clean the space and bedding 57

Clean the space 57
Clean or sterilize the bedding 58

Clean and sterilize tools 59

Soak your tools 59
Clean your tools 59
Sterilize your tools 59
Baking 61
Pressure steaming 61
Boiling 62
Steaming 62
Using chemicals 63
Some equipment needs special care .. 65

Get rid of wastes safely 67

Burying wastes 68

Preventing infection

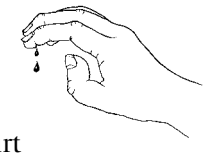
CHAPTER 5

Preventing infection saves lives

Infection makes people sick and can even kill them. It is one of the most common causes of death after childbirth. Procedures that involve putting medical tools inside a woman's womb, like inserting an intrauterine device (IUD) or doing manual vacuum aspiration (MVA), can also cause infection. Much of the work of a midwife, and any procedure inside the womb (invasive procedure), can only be safe if you are able to follow the steps we outline in this chapter to prevent infection.

Germs can live on tools, even tools that look clean.

This chapter explains how to avoid infection by killing or controlling harmful germs. Germs are organisms that carry sickness. Germs are everywhere, but they are so small that they can only be seen with a microscope. The dangerous germs in blood, stool, body fluids (like semen and amniotic waters), and dirt can cause serious sickness when they get into someone's body.



Germs live in body fluids, like blood.

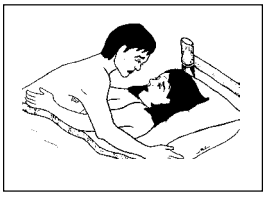
Infection is caused by germs

Some sicknesses, like arthritis, diabetes, asthma, and epilepsy, are not caused by germs. They cannot be passed from one person to another.

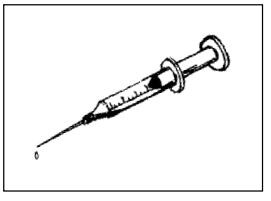
Other sicknesses, like measles, hepatitis, tetanus, womb infection, HIV, and the flu, are called infections and are caused by germs. People get sick when the germs that cause these infections get inside their bodies.

How germs get into the body

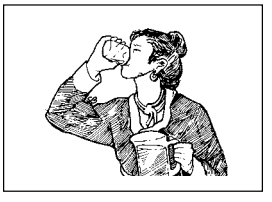
Germs can get inside the body in different ways.



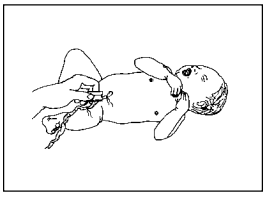
Some germs pass through semen or vaginal mucus (body fluids) when people have sex. HIV and other sexually transmitted infections like chlamydia and gonorrhea can spread this way.



Some germs pass through blood when the blood or body fluid of an infected person get into a cut or through the skin — like with a needle that has been used for piercing or injections. HIV, hepatitis B, and hepatitis C can spread this way.



Some germs live in dirty water and pass when people drink it. Cholera and diarrheal diseases spread this way.



Some germs live in dirt, on skin, or in the air, and are not dangerous unless they get into a person's blood. These germs can get into the blood when an instrument that has germs on it is used inside a woman's womb, or to cut the skin or a baby's cord. Tetanus and womb infection can spread this way.

Some germs pass through the air when a sick person coughs or sneezes. Colds, flu, and tuberculosis can spread this way.

Keep sick people away from births

One simple thing midwives can do to prevent infection is to keep sick people away from women who are pregnant or giving birth. Keep anyone who has a sore throat, cough, fever, or other illness that passes through germs away from births. And do not let anyone with a sore on his or her hands or face touch a new baby.

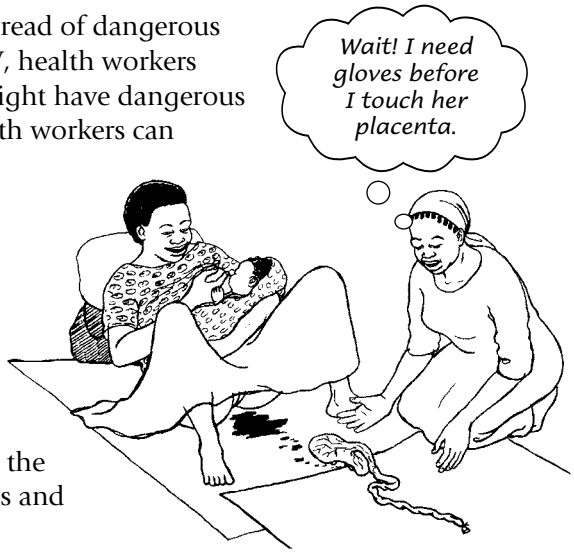
If you are sick but you must go to a birth, you can cover your mouth and nose with a scarf, a folded cloth or a mask. Wash your hands often and cover your mouth when you sneeze or cough. Be sure to wash your hands after each time you sneeze or cough. Try not to touch the new baby too much.

Anyone may carry germs that cause sickness

People do not always know that they have an infection. And there is no way to tell for sure what germs a person has just by looking at her. Some people have germs in their blood or other body fluids but do not seem sick.

To be safe, and to stop the spread of dangerous infections like hepatitis and HIV, health workers must treat everyone as if they might have dangerous germs in their body fluids. Health workers can prevent germs from spreading:

- by wearing gloves and other protective clothing, to prevent blood and other body fluids that contain germs from getting on themselves or others.
- by cleaning and sterilizing the tools they use during births and other procedures.

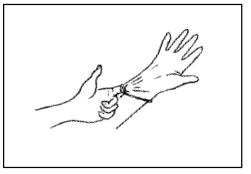


Note: Good general health can help avoid infection. Healthy eating, enough rest, and emotional and spiritual well-being are all important for staying healthy. Sometimes they are enough to help people fight germs that get inside the body so the person does not get sick.

But during birth and invasive medical procedures, a woman's body is more open and vulnerable to infection, and good general health is usually not enough. Germs that are usually kept out of the body can get into the womb. Any cut in the skin also makes a person more vulnerable to infection because the skin usually helps keep germs out of the body. Even an injection can cause an infection if the syringe has harmful germs on it.

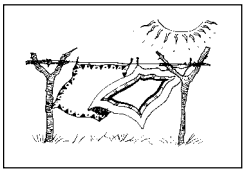
Prevent infection by keeping germs away

Here are the basic rules to prevent infection.



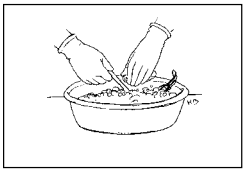
Clean your hands and wear protective clothing.

Wash your hands often and wear protective clothing to prevent spreading germs from one person to another and to keep germs away from yourself (see page 53).



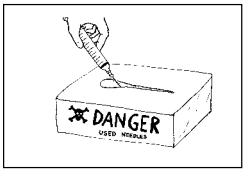
Clean the space and bedding.

Clean the area where births and exams happen, to keep germs away (see page 57).



Clean and sterilize tools.

Wash and sterilize tools to kill any germs on them (see page 59).



Get rid of wastes safely.

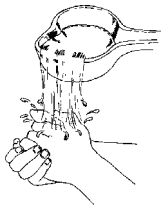
Throw away waste products carefully to prevent people in the community from getting sick from the germs left on them (see page 67).

Remember: Infection can spread most easily when a health worker is caring for many people. For example, if her hands are not clean or her tools are not sterile, she will pass germs from one woman to another to another. For this reason, a woman giving birth at a hospital or maternity center with many other women has more risk of infection than a woman giving birth at home.

Adapt this book to work for you

This chapter contains many detailed instructions for preventing infection. They are all important, but they may not all be possible. You will have to decide which you are able to do, or if there are ways you can adapt the instructions to work for you.

Clean your hands and wear protective clothing



Wash your hands often

Washing your hands is one of the most important things you can do to prevent infection. It prevents you from spreading germs to another person, and it helps protect you from germs, too. If you can do nothing else to prevent infection, you must wash your hands.

Wash your hands with soap and clean water. If you do not have soap, you can use ash (but not dirt!). Be sure to rinse all the soap or ash off. When you wash your hands, and especially when you rinse them, use clean water that is flowing, not water sitting in a bowl. When you wash your hands in a bowl, the germs that come off into the water will get back onto your hands again.

Wash your hands each time before you touch a woman's body. Wash after you touch her body, or after you touch anything that has her blood or fluid on it (like the placenta). Wash before you put on gloves and after you take gloves off. If you are helping more than one woman at once, like at a hospital, it is very important to wash between helping each person.

Normal hand washing removes most germs. But sometimes to remove more germs, you should wash your hands for a full 3 minutes, and scrub under your fingernails.

How to do a 3-minute hand wash

Before you start, take off rings, bracelets, and other jewelry.

1

Wash your hands and arms with soap and clean water — all the way up to your elbows.

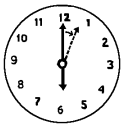
2

Make sure to scrub in between your fingers.

3

If you have a clean brush, scrub your fingernails.

4



Keep scrubbing, brushing, and washing your hands and arms for 3 minutes! Spend most of this time on your hands.

5

Rinse with clean, running water.

6

Dry your hands in the air instead of using a towel. Do not touch anything until your hands are dry.

Always do a 3-minute hand wash

before you:

- touch the mother's vagina
- do a pelvic exam
- deliver the baby
- sew up a tear
- insert an IUD (see Chapter 21)
- do an MVA (see Chapter 23)

after you:

- clean up after the birth
- touch any blood or other body fluids
- urinate or pass stool

Alcohol and glycerine hand cleaner

You can make a simple hand cleaner to use if you do not have water to wash your hands. When used correctly, this cleaner will kill most of the germs on your hands.

Mix 2 milliliters glycerine with 100 milliliters of ethyl or isopropyl alcohol 60% to 90%.

To clean your hands, rub about 5 milliliters (1 teaspoon) of the hand cleaner into your skin. Be sure to clean between your fingers and under your nails. Keep rubbing until your hands are dry. Do not rinse your hands or wipe them with a cloth.

Clean water

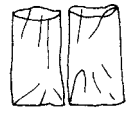
Throughout this book we talk about how important it is to wash your hands and wash your tools. But the water you use must be clean to be of any use. If the water in your community may carry germs, be sure that water is boiled before using it to wash your hands or to wash tools before a birth.

Wear gloves

Latex and other plastic gloves protect women from any germs that may be hiding under your fingernails or on your skin. They also protect you from getting infections. Wear clean gloves whenever you touch the mother's genitals, or any blood or body fluid.

If you are doing invasive procedures, or if you are touching any tools that have been sterilized, you must wear sterile gloves.

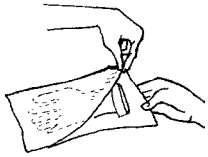
Plastic bag gloves



If you do not have gloves, use plastic bags that have been washed in disinfectant soap instead. Bags are harder to use than gloves, but they are better than nothing.
In the rest of this book, we will only mention gloves. But **be sure to use plastic bags if you do not have gloves**.

How to put on sterile gloves

1

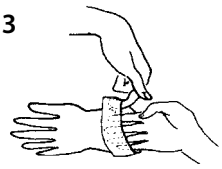


Open the package without touching the gloves. Do not touch the outside of a sterile glove with your hand or it will not be sterile anymore.

2

Carefully wash your hands. Let them dry in the air.

3

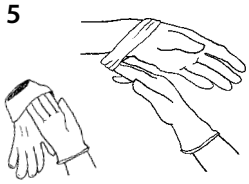


The gloves should be folded out at the cuff. Pick up one glove under the cuff on the inside of the glove and slip your hand into it. Do not touch the outside of the glove.

4

Wiggle your hand in while you pull with your finger tucked inside the glove.

5



Pick up the second glove by slipping your gloved fingers into the fold of the cuff. Slide your hand into the glove.

6

Once the gloves are on, do not touch anything that is not sterile — or the gloves will not be sterile anymore either!

Practice with the same pair of gloves over and over again until it feels easy.

Remember:

If you carefully wash your hands . . .

and put on sterile gloves . . .

and then scratch your head . . .

your glove is not sterile anymore!

Of course, when you touch a woman you will get germs on your gloves, but do not move germs from one part of her body to another. For example, if you touch a woman's anus where there are many germs, do not put your fingers inside the vagina with the same gloves. Germs from the anus can make a woman sick if they get into the vagina or womb.

After you use a pair of gloves one time, throw them away, or sterilize them before you use them again (see page 66).

Protect yourself from infection

Midwives must protect themselves from germs and infection. You will not be able to help women if you are sick. And if you are infected with dangerous germs, you can easily spread them to the women you are trying to help.

Some germs that cause serious illnesses, like AIDS and hepatitis B, only live in blood, urine, stool, the bag of waters, and other body fluids. That means you do not get these illnesses just by touching someone's skin. But the germs that cause AIDS and hepatitis B can infect you if an infected person's blood gets into a cut or opening in your skin — even a cut so small that you cannot see it (see page 99 for all the ways HIV can spread). Keep blood and other body fluids off your clothing and skin, and if they do get onto you, wash them off right away with soap and water.

Wear protective clothing

You do not need expensive equipment to keep body fluids off your skin, out of cuts, and out of your mouth and eyes. You can wear an apron or an extra shirt to keep fluid off your body. Protect your eyes with eyeglasses or plastic goggles. Cover your feet so that you do not step into blood or other fluids.

If you do not have clothing made to protect you from blood and fluids, you can make it from what you already have.

Wash all your clothing after any blood, waters, or other body fluids gets on it. If you get body fluids in your eyes or mouth, rinse them for several minutes with clean water or saline (water with a little salt added).

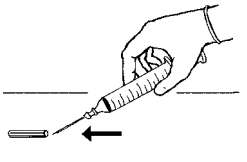
Be careful with needles

If a syringe is used to give an injection, or a needle was used for sewing a vaginal tear, the needle has blood on it. If you accidentally stick yourself with that used needle, you will be exposed to germs. Carry needles carefully with the point away from your body. Do not leave needles lying around.

Use each needle only once and then throw it away in a box like the one on page 68. You may be able to get needles that can only be used once and do not need a cap. If you must reuse a needle, put the cap on very carefully and then put the needle in a bucket filled with bleach solution (see page 57) until you are ready to clean and sterilize it.

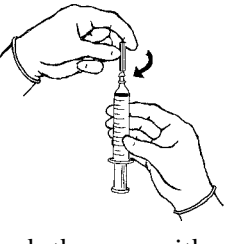
How to avoid puncturing your skin with a needle

Do not use your hand to put the cap on the needle.



Instead, use the needle to pick up the cap.

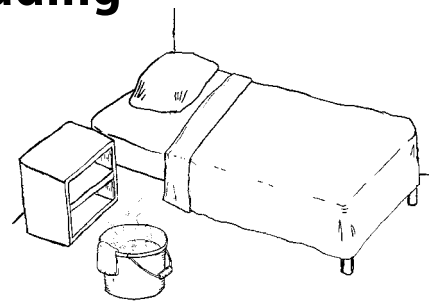
Then close the cap all the way.



Note: If you do get stuck by a needle, immediately wash the area with soap and water or alcohol and dispose of the needle properly (see pages 67 and 68). Do not use it on another person.

Clean the space and bedding

Clean the space



At home

One reason that birth or medical procedures can happen as safely in a woman's home as in a medical center is that there are not as many germs in a clean house as in a hospital. But the home should still be cleaned carefully — especially the area where the baby will be born or where procedures such as a pelvic exam or IUD insertion will be done.

Sweep these areas free of dust and dirt, and wash surfaces with soap and water. Put your tools or birth kit on a clean surface.

Move animals out of the house and do not do any medical procedures in places where animals sleep or pass stool, or where people urinate or pass stool. If the floor in the house is made of animal waste (dung), do not let the woman's body or any of your tools touch the floor. Dung has many germs in it that can easily spread to pregnant women. You can cover the floor with clean straw, cloth, or plastic.

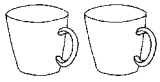
In a hospital, maternity center, or clinic

Be extra careful. Germs can easily be passed from one person to another.

After each birth, wash floors and surfaces. If possible, use a bleach (sodium hypochlorite) solution to wash the floor.

How to make a disinfecting solution of 5% bleach

If your bleach says:

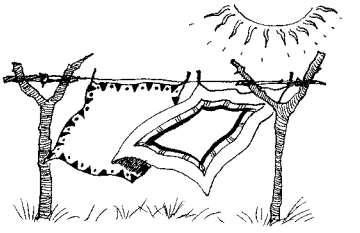
5% available chlorine	**10%** available chlorine		**15%** available chlorine	
				
use undiluted, straight bleach	use 1 part bleach	and 1 part water	use 1 part bleach	and 2 parts water

Mix just enough solution for 1 day. **Do not use it again the next day.** It will not be strong enough to kill germs anymore.

If you do not have bleach, you can wash the floor with:

- ethanol (medical alcohol) 70%
- isopropyl alcohol 70%
- hydrogen peroxide 6%
- soapy water
- ammonia
  (But do not ever mix bleach with ammonia — when mixed they make a poison.)

Clean or sterilize the bedding



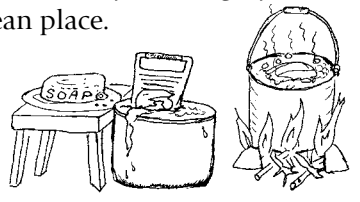
At home

Wash cloth for covering the bed (bedding) in soap and water, and dry it thoroughly by hanging it in the sun or ironing it. Do not dry bedding on the ground; it will pick up germs.

In a hospital, maternity center, or clinic

Bedding must be sterilized after each birth. Use one of these methods to kill the germs:

- Wash the bedding with soap and water. Then boil for 30 minutes. Dry thoroughly in a clean place.



or

- Wash bedding with soap and water. Then use a hot iron to dry it.

If neither of these methods is possible, wash the bedding in soap and water and hang it in the sun until it is fully dried. Turn the bedding so the sun shines on both sides, and take care to keep it clean.

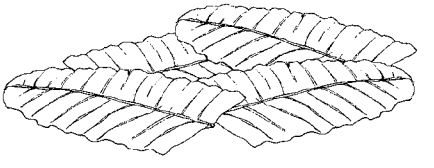
Store bedding to keep germs away

If you are not going to use the bedding right away, keep it clean and dry until you are ready to use it. Put it in a clean bag or wrap it in clean paper and store it in a clean, dry place.

Note: Do not store bedding that is damp or wet. Germs will come back!

Other kinds of underpadding

Sometimes there is no bed or bedding. The birth or procedure happens on the floor. In these cases, it is useful to have some kind of underpadding. This protects the baby and the mother from the germs and dirt that are on the floor. Find a way to clean the underpadding before it is used. For example, banana leaves can be washed with a disinfectant solution, and then smoked or dried in the sun. Cloth rags or sacks can be boiled and then dried.



Clean and sterilize tools

All the tools used at a birth, exam, or procedure must be cleaned and sterilized. Cleaning and sterilizing the tools gets rid of germs. This protects women from getting sick.

1. Soak your tools

Tools that have been used must be soaked for at least 20 minutes in bleach solution (see page 57).

2. Clean your tools

All tools and equipment you use at a birth or a procedure must be clean. Wash them well after each birth, using a brush to remove any blood or dirt in the hinges or rough edges of your tools. Clean off any rust, and get rid of tools that are dull or damaged. To protect yourself, wear heavy gloves when you clean your tools.

After everything is washed, any tools that you use inside a woman's body must also be sterilized to kill germs.

Carefully wash all the dirt off your tools.

3. Sterilize your tools

To sterilize means to kill all the germs on something. If your tools are sterilized, they will not spread germs to women when you use them. This will protect women from getting infections.

What do we mean when we say "sterile"?

Sterilize means kill **all** the germs that cause infections. To sterilize a tool you must use baking or pressure steaming.

Disinfect means to kill **most** of the germs that cause infections. Some soaps and cleaning products are called "disinfectant." But to disinfect medical tools or instruments you cannot simply clean something with a disinfectant soap — you must boil, steam, or soak the tool in disinfectant chemicals. This kind of disinfection is called High Level Disinfection (HLD).

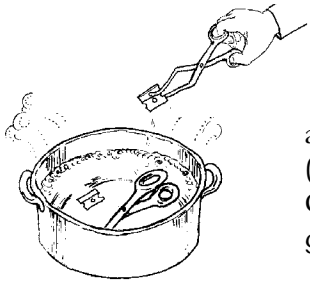
All the procedures in this book can be done safely with tools that are either sterile or HLD. To be simple, we only use the word "sterilize" or "sterile" throughout the book. But any time we say that a tool should be sterile, we really mean it can be sterile **or** HLD.

Sterilize everything that will go inside a woman's body, will cut her skin, or will be used to cut the cord at birth.

Sterilize these items:

- syringes and needles
- scissors or razor blade for cutting the cord
- materials for sewing tears
- clamps or hemostats
- gloves
- gauze
- compress cloths
- bulb syringe or mucus trap
- MVA cannula (see page 420)
- speculums, in some cases

Note: You do not need to sterilize tools that are used only on the outside of the body. Stethoscopes, measuring tape, and blood pressure cuffs must be clean but do not need to be sterile.



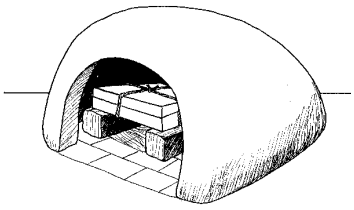
When you sterilize a tool, the germs on it are killed and it is safe to use. But if that tool touches anything (including the bed, a table, or you!) it is no longer sterile. Germs from whatever it touched are on it, and those germs can cause an infection when the tool is used.

The next few pages explain 5 different ways to sterilize your tools: baking, pressure steaming, boiling, steaming, and soaking in chemicals. Baking and pressure steaming are best — they kill the most germs. If you cannot use either of those methods, boiling, steaming, or using disinfectant chemicals is fine. Use the ways that work best for you.

WARNING! **If you cannot sterilize your tools, then do not use them.** Unsterilized tools will do more harm than good.

Baking

Use baking to sterilize metal tools, and string for tying the cord. Do not bake rubber or plastic. It will melt.



Wash and rinse all the tools well, then put them into 4 layers of clean cloth or heavy paper. Wrap the cloth up around the instruments and tie it shut.

Put the packet of tools or string into a container or on a pan.

Bake on a medium-high heat (170°C or 340°F) for 1 hour.

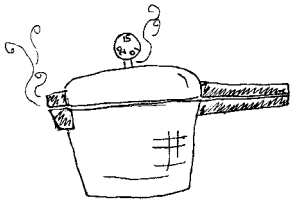
This is a little longer than it takes to bake a big potato or yam. If you cannot make your oven hot enough, bake items longer.

Let the packet cool, then store it in a clean, dry place.

Pressure steaming

Use pressure steaming to sterilize metal tools or rubber or plastic equipment.

Some clinics and hospitals have a machine for sterilizing called an autoclave. Autoclaves sterilize instruments using pressure and steam. If you have a pressure cooking pot, you can sterilize your tools in the same way that an autoclave does.

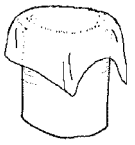


Put a steamer basket and water in the pressure cooking pot. Put your tools into the steamer, close the lid on the pot, and put the pot on a flame to boil.

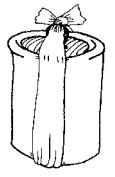
After it comes to a boil, cook at 15 or 20 pounds of pressure for 20 minutes.

After sterilizing tools, let them dry. Do not touch them, or they will not be sterile anymore!

Use sterilized tongs, chopsticks, or spoons to pick the tools out of the pot. Move them directly to a sterilized container. Remember, if the tool touches anything, including your hands, it is no longer sterile.



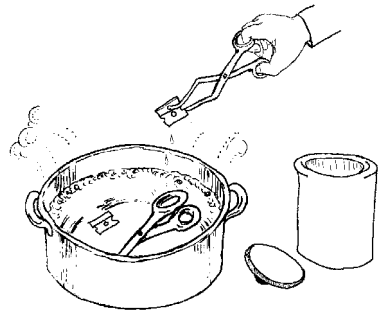
Let the tools dry in the sterilized container. Cover the container with a sterilized cloth or paper to keep dust out.



When the tools are all dry, put the lid on the container and seal it with tape or some other material to keep the germs out.

Boiling

Use boiling to sterilize metal tools, rubber or plastic equipment (like mucus bulbs), and cloth.



After you wash and rinse your tools, cover with water and boil for 20 minutes.

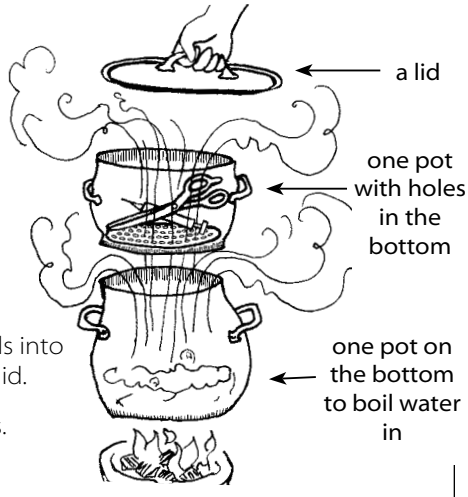
Start counting the 20 minutes when the water starts boiling.

Use sterilized tongs, chopsticks, or spoons to pick the tools out of the pot. Move them directly to a sterilized container. Remember, anything you touch is no longer sterile.

Steaming

Use steaming to sterilize metal tools, gloves, plastic equipment, and other tools.

A steaming pot has 3 parts that fit together tightly: one pot on the bottom to boil water in, one pot in the middle that has holes in its bottom, and a lid.



steaming pot method

Boil a little water in the bottom pot. Put the tools into the steamer pot with the holes. Cover with the lid.

Steam over boiling water for at least 20 minutes.

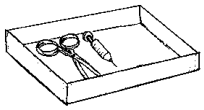
Start counting the 20 minutes when the water starts boiling.

Wait for the tools to dry, and then use sterilized tongs to move the tools from the steamer into a sterilized container, and seal the container.

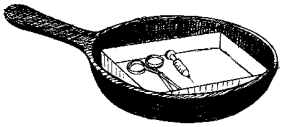
Steaming uses less water than boiling, and tools that are steamed do not get dull or broken as quickly as tools that are boiled.

A method from the Philippines

The Medical Mission Sisters in the Philippines have developed a method to sterilize tools with steam:

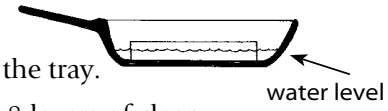


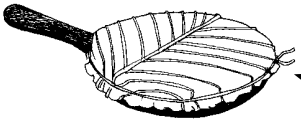
1. Put your clean tools into a metal tray.



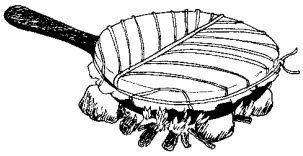
2. Place the tray in a cooking pan.

3. Fill the pan with water until it reaches halfway up the tray.



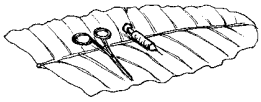


4. Cover the pan with 8 layers of clean green banana leaves. Bind the leaves tightly in place with strips of banana leaf or bark. Be careful not to spill water into the tray when you do this.

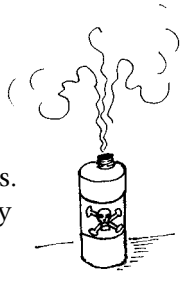


5. Put the pan on a low fire and boil for about 1 hour.

6. Throw away the top layer of the leaves. You can use one of the inner layers to put your instruments on.



Using chemicals



Some people use chemicals to sterilize metal, rubber, or plastic tools and equipment. We do not recommend using chemicals to sterilize.

Most chemicals used to sterilize are poisonous. They poison the ground and the water when they are thrown away. They are poisonous to the people who work in factories making them, and they are poisonous to the people who use them to clean tools.

But some tools can only be sterilized with chemicals. Thermometers and some kinds of gloves cannot be baked, boiled, or steamed.

If you do need to use chemicals:

- mix up the bleach solution on page 57.

or If you do not have bleach, use one of the following chemicals:

- ethanol (medical alcohol) 70%
- isopropyl alcohol 70%
- hydrogen peroxide 6%

or If you cannot get any of these chemicals, you can use:

- strong drinking alcohol like gin, or a strong local brew.

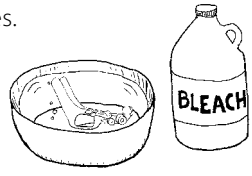
Be sure that all of your tools are very clean before sterilizing them with chemicals. Even a little blood or body fluid left on the tool can stop the chemicals from working. Do not use chemicals to sterilize tools that will go inside the womb.

Soak in bleach or disinfecting chemicals for at least 20 minutes.

or

Soak in strong drinking alcohol for a whole day.

After soaking, pour the chemicals off and let the tools dry.

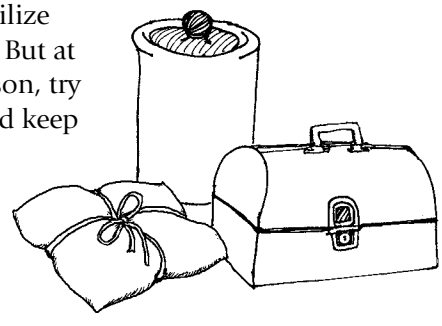


WARNING! **Glutaraldehydes and formaldehyde are chemicals that we think are too dangerous to ever use.** Many clinics and hospitals use these to sterilize, but they are very toxic. Formaldehyde, for example, causes cancer. Try to find a different way to sterilize.

If you use chemicals, keep them off your skin, and wear gloves when you use them. Get rid of chemicals carefully. You may have to dump bleach or other chemicals into a latrine to be sure animals and children do not drink it.

Storing tools and supplies

At some births there will be plenty of time to sterilize your tools and equipment at the mother's house. But at other births, you may not have time. For this reason, try to sterilize your tools and equipment at home and keep them in a sterilized container in your kit. A metal box or pot with a tight-fitting lid is best.
Use any of the above methods to sterilize a container and tools to move equipment.
Do not touch the inside of the container.



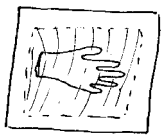
If you cannot get such a container, wrap the tools and equipment in 4 layers of cloth or heavy paper before sterilizing them. Then keep the sterilized tools wrapped up until you are ready to use them. (You can only use cloth or heavy paper to wrap your tools if you are sterilizing by baking.)

Remember that germs grow in moisture, and they will come back if the instruments are put away while they are wet. But if you are going to use the tools right away, it is OK to use them when they are wet. Germs need time to grow.

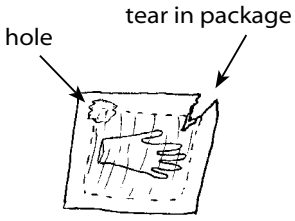
Some equipment needs special care

Sterile packets

Gauze, compresses, gloves, and other equipment sometimes come in sterile packets. Because the inside of the packet is sterile too, you can use this equipment directly out of the packet. But remember: once you take something out of its sterile packet and use it, or if the packet gets wet or gets holes in it, the equipment is not sterile anymore.



This glove is sterile.

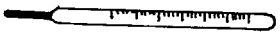


This glove is not sterile.

Things in sterile packets are often meant to be used only once and then thrown away (disposable). But some of these things can be used again if they are carefully cleaned and sterilized before each use. Gloves can be boiled or steamed. Gauze and compresses can be washed and then boiled or baked.

Thermometers

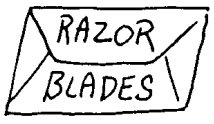
Wash the thermometer in soap and rinse with cool, clean water before and after you use it. Do not use hot water because the thermometer may break.



After washing, it is best to soak the thermometer in alcohol for 20 minutes. You can use ethyl, isopropyl, or medical alcohol (ethanol). Do not reuse the alcohol. Rinse the thermometer in clean water before you use it again.

Razor blades

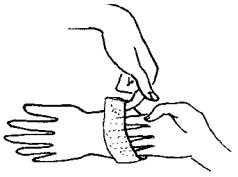
Razor blades for cutting cords often come inside of a sterile packet. To keep the packet sterile, wrap it in clean paper or cloth, or keep it in a clean dry box. If the packet gets wet or dirty, it is not safe to use the razor blade unless you sterilize it again.



Try not to reuse razor blades — but if you do, they must be sterilized first. Razor blades can be sterilized by any method.

Gloves

Most plastic gloves can be boiled or steamed, but some will fall apart in the water. Get strong gloves that can be boiled and reused a few times.



Only touch the inside of the glove.

Before boiling or steaming gloves, turn the cuff inside out. After sterilizing a glove, touch only the inside part of it. If you touch the outside, it will not be sterile anymore.

If the gloves you have cannot be boiled, wash them carefully and soak them in bleach or medical alcohol. Then rinse them in clean water before using them again.

Mucus bulb (bulb syringe)

When you wash out a mucus bulb, make sure to fill it with soapy water and then squeeze the water out. Do this several times. Then rinse it out well.

If you sterilize the mucus bulb by boiling, make sure to let water into the inside of the bulb before boiling and then squeeze out all the water afterward.

Needles

Many people get sick with serious illnesses like hepatitis or HIV from using unsterilized needles.

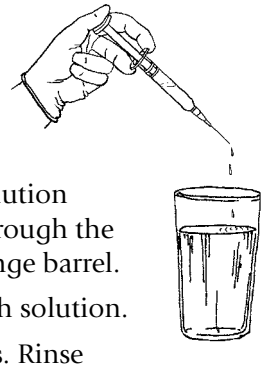
Reusable syringes and disposable syringes

Reusable syringes can be used again and again. Reusable syringes make less waste and can save money, but they must be washed very carefully and sterilized after every use.

Disposable syringes are made to be thrown out after one use. Some disposable syringes can be taken apart, boiled or steamed, and reused several times. But we do not recommend this, because needles that are not completely sterilized can spread disease.

Never reuse a needle or syringe without cleaning and sterilizing it first!

How to wash and sterilize a syringe and needle for reuse:

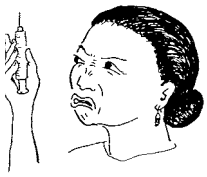


1. Put on a pair of heavy gloves to protect your hands from germs.
2. Draw 5% bleach solution (see page 57) up through the needle into the syringe barrel.
3. Squirt out the bleach solution.
4. Repeat several times. Rinse everything several times with clean water.
5. Take the syringe and needle apart and boil or steam them. (See page 62.)

Remember:

If you take a sterile syringe out of boiling water . . .

and put it in your pocket . . .

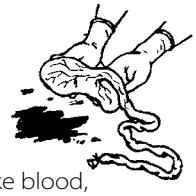


it is not sterile anymore. Instead, it is dangerous!

Get rid of wastes safely

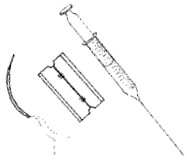
There are three different kinds of waste after a birth or procedure:

body wastes



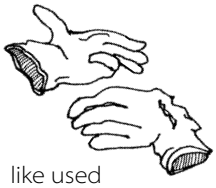
like blood, stool, or placenta

sharp wastes



like needles for sewing or syringes

other wastes



like used plastic gloves

These wastes carry germs and can spread infections to you and to people in the family and community. Wear gloves when you touch wastes, and get rid of them carefully.

Body wastes

The simplest way to dispose of body wastes is to put them in a latrine or to bury them deep in the ground.

In many communities, families bury the placenta, sometimes with other special objects. Burying the placenta is an important ritual for many people, and is also a way to protect the community from germs that may grow in the placenta.

Sharp wastes

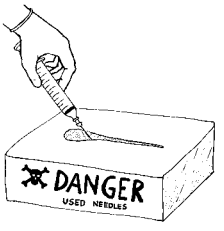
Sharp wastes must be put into a container so they will not injure anyone who finds them. A container made of metal or heavy plastic, with a lid or tape to close it, works well.

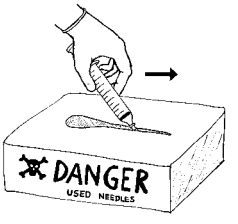
When the container is half full, add bleach if possible, then seal it closed and bury it deep in the ground (see page 68).

Make a box to dispose of needles safely

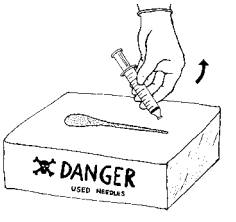
Find a metal or hard plastic box. Make a long hole in the lid of the box that is wide on one side and gets narrower on the other side.

When you have finished using a disposable syringe, put the needle into the box and slide it down to the narrowest point.





Then pull up on the syringe and the needle will fall off into the box. The plastic syringe can be sterilized and thrown into a waste pit (see below).



When the box is half full, pour 5% bleach solution into the box, seal it closed, and then bury it deep in the ground.

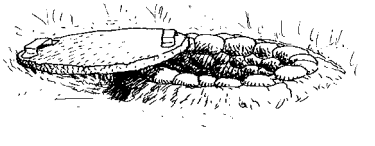
Other wastes

Other wastes, like plastic gloves, syringe barrels, or cloth soaked in blood, should be sterilized and then buried deep in the ground. You can sterilize them by soaking them in bleach for 20 minutes.

WARNING! **Do not burn plastic gloves, syringes, or any other plastics.** Burning plastic wastes is dangerous — when plastic burns, it makes smoke and ash that is very poisonous.

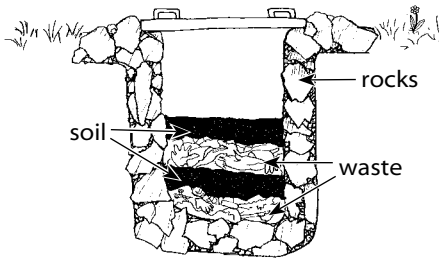
Burying wastes

Find a place away from where people get their drinking water and away from where children play. Dig a safe waste pit to bury wastes.



A safe waste pit

1. Dig a pit 1 to 2 meters wide and 2 to 5 meters deep. The bottom of the pit should be at least 1 meters above the water table.
2. Line the inside of the pit with a layer of clay or rocks at least 10 centimeters thick.
3. Build up a ridge of earth around the top of the pit to prevent surface water from running in.
4. Build a fence around the area where the pit is located to keep animals out.



Each time waste is put in the pit, cover the waste with 10 centimeters of soil, or a mix of soil and lime. Lime helps disinfect the waste, and will also keep animals away while the pit is in use.

When the waste rises to ½ meter from the surface, cover it with ½ meter of soil and seal it with a layer of concrete at least 90 centimeters thick. If the pit is used only for medical waste and not for regular garbage, it will not fill up too quickly.

Use the 50-meter rule when you dig a hole to bury wastes.
50 meters from buildings
50 meters from water
50 meters from wells
HEALTH CLINIC
KEEP OUT

Garbage dumps

When wastes are sent to a garbage dump, they can spread infections there. In many places, people pick through garbage to find things to sell, like used syringes. This is dangerous for the people picking through the garbage, and for the people who buy the syringes to use them again.

When a syringe is not usable anymore, dispose of it safely. If you must send needles to the garbage dump, sterilize them first, and seal them in a box or tin.

Pregnancy

INTRODUCTION

All women need care and attention during pregnancy. This care is usually called prenatal or antenatal care. Prenatal care helps pregnant women be healthier and have fewer problems in birth. Prenatal care should come from the woman herself, from her family and the community, and from a midwife or someone else who is experienced in helping pregnant women.

In some places, midwives only care for women when they are in labor or giving birth, not during pregnancy. This may be because most of the time, people only go to a healer or doctor when they are sick or if something is wrong. Pregnancy is usually normal and healthy, so people may not think that prenatal care is important. But most midwives know that women who have good care during pregnancy are more likely to have safer births and healthier babies.

Care in pregnancy has 2 purposes:

1. **Observing and listening** to the pregnant woman by checking her body for healthy signs and warning signs and by asking her about problems or listening to her questions.

2. **Teaching** a woman how to have a healthier pregnancy (for example, how to eat a healthy diet and how to avoid harmful things).

Midwives should start prenatal care as soon as a woman knows she is pregnant, and should examine the woman regularly during the pregnancy. We call these meetings "checkups." If possible, every woman should have at least 4 checkups.

Doing more checkups will give you more chances to share important information and to prevent health problems. And any woman who has warning signs should have checkups more often.

This section is divided into 3 different chapters:

- Chapter 6 explains the changes a woman may go through in pregnancy.
- Chapter 7 explains how to learn about a woman's health history during the first checkup.
- Chapter 8 explains how to check a woman for healthy signs and warning signs at each checkup.

CHAPTER 6
Common changes in pregnancy

In this chapter:

Changes in eating and sleeping 73

Upset stomach (nausea) and dislike of some foods 73
Food cravings 74
Burning or pain in the stomach or between the breasts (heartburn) 74
Sleepiness 75
Difficulty sleeping 75

Body changes and discomforts 76

Swollen breasts 76
Swollen feet 76
Swollen veins (varicose veins) 76
Constipation (difficulty passing stool) 76
Hemorrhoids (piles) 77
Needing to urinate often 77
Discharge (wetness from the vagina) 77
Difficulty getting up and down 78
Shortness of breath 78
Feeling hot or sweating a lot 78
The mask of pregnancy 79
Purple spots on the skin 79
Aches and pains in the joints 79
Sudden pain in the side of the lower belly 79
Cramps in early pregnancy 79
Baby's kicks hurt the mother 80
Back pain 80
Leg cramps 80
Headaches 81
Other pains 81

Changing feelings and emotions 82

Sudden changes in feelings 82
Worry and fear 82
Strange dreams and nightmares 82
Forgetfulness 83
Feelings about sex 83

Common changes in pregnancy

CHAPTER 6

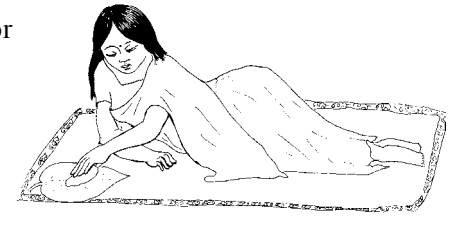
During pregnancy a woman's body changes. These changes can sometimes be uncomfortable, but most of the time they are normal. In this chapter, we describe some of these changes, and discuss ways to help women feel better. We also explain how to tell when a woman's discomfort may be a sign that something dangerous is happening with her pregnancy.

There are many ideas about how to treat the discomforts of pregnancy. We cannot explain all of these ideas here. If you know remedies or treatments for these problems which we do not explain, use the remedies that work for you. We do not have all the answers. But use the ideas on page 19 to help you decide if remedies are helpful or if they may be harmful. Not all remedies work.

Changes in eating and sleeping

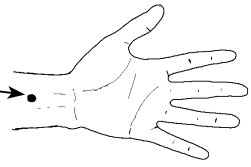
Upset stomach (nausea) and dislike of some foods

Many women have nausea in the first months of pregnancy. Sometimes it is called morning sickness. No one knows for sure what causes morning sickness, but for many women, the way they eat affects it. If the nausea is mild, encourage the woman to try any of these remedies:



- Eat a food that has protein before bed or in the night. Some good foods with protein are beans, nuts, and cheese.
- Eat a few crackers, dry bread, dry tortillas, dry chapatis, or other grain food when she first wakes up in the morning.
- Eat many small meals instead of 2 or 3 larger ones, and take small sips of liquid often.
- Take 50 milligrams vitamin B-6, 2 times each day. (Do not take more.)

- Use acupressure to relieve nausea. Find the spot 3 fingers above the wrist between the 2 tendons on the inside of the woman's arm. Press on this spot, moving your finger in small circles. Press firmly but not hard enough to hurt. If acupressure is going to help, the woman should start to feel better within 5 minutes.



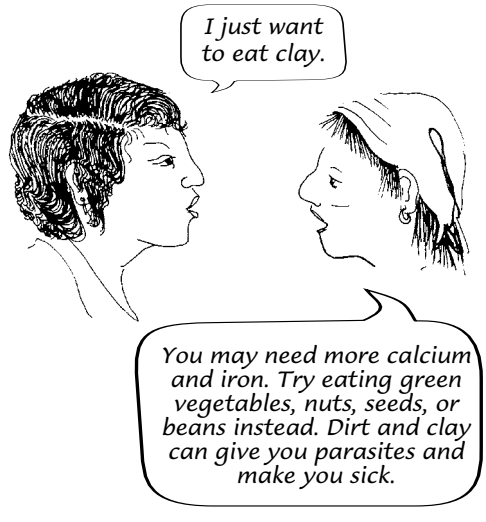
- Drink a cup of ginger, mint, or cinnamon tea 2 or 3 times a day, before meals. To make mint or cinnamon tea, put a teaspoon of mint leaves or a stick of cinnamon in a cup of boiled water. Let the tea sit for a few minutes before drinking it. To make ginger tea, boil crushed or sliced ginger root in water for at least 15 minutes.

A pregnant woman may suddenly dislike a food that she usually likes. It is OK not to eat that food, and she will probably begin to like it again after the birth. She should be careful that the rest of her diet contains a lot of nutritious food.

Food cravings

A food craving is a strong desire to eat a certain food, or even something that is not food at all, like dirt, chalk, or clay.

If a woman gets a craving for nutritious foods (like beans, eggs, fruits, and vegetables), it is OK for her to eat as much as she wants. But if she wants a lot of "junk food" (like candy, soda, or packaged snacks) she should eat nutritious food first.


I just want to eat clay.
You may need more calcium and iron. Try eating green vegetables, nuts, seeds, or beans instead. Dirt and clay can give you parasites and make you sick.

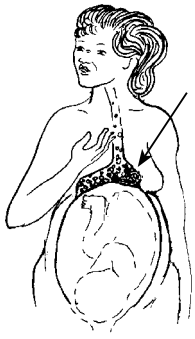
A woman who craves things that are not food, like dirt or clay, should **not** eat them. They may poison her and her baby. They may also give her parasites, like worms, that can make her sick. Encourage her to eat iron-rich foods (see page 36) and calcium-rich foods (see page 38) instead.

Burning or pain in the stomach or between the breasts (heartburn)

A burning feeling or pain in the stomach or between the breasts is called indigestion or heartburn. Heartburn happens because the growing baby crowds the mother's stomach and pushes it higher than usual. The acids in the mother's stomach that help digest food are pushed up into her chest, where they cause a burning feeling. This is not dangerous and usually goes away after the birth.

Here are some things a woman can try to make herself more comfortable:

- Keep her stomach less full by eating smaller meals more often and by eating foods and drinking liquids separately.
- Avoid eating spicy or greasy foods, drinking coffee, or smoking cigarettes — all of which can irritate the stomach.
- Regularly eat papaya or pineapple, which have enzymes that help the stomach digest food.
- Keep her head higher than her stomach when lying down or sleeping. This will keep her stomach acids in her belly and out of her chest.



As the baby grows, he pushes the woman's stomach up.

- Calm the acids in the stomach by drinking milk or taking a low-salt antacid that contains no aspirin. (Antacids are not dangerous but they cost money and they make it harder for the body to use nutrients from food. Try other methods before using antacids.)

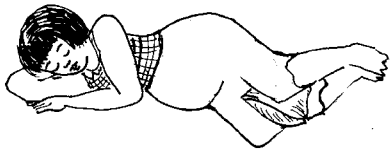
Sleepiness

Some pregnant women feel sleepy much of the day. This is most common during the first 3 months.

It is normal for pregnant women to feel sleepy. Their bodies are telling them to slow down and rest. But if a woman also feels weak, she may have other problems, like a sickness, depression (see page 274), or anemia (see page 116).

Difficulty sleeping

If a woman cannot sleep because she is uncomfortable or restless, it may help if:

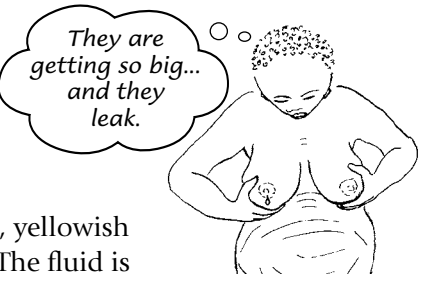


- she lies on her side with something comfortable between her knees and at her lower back. She can use a pillow, a rolled-up blanket, banana leaves, or some other padding.
- someone gives her a massage.
- she drinks herbal teas that help her sleep.

Fighting, worry, and unhappiness in a woman's house or family can make it difficult for her to sleep. If possible, a family should avoid arguing before going to sleep.

Body changes and discomforts

Swollen breasts



A woman's breasts get bigger during pregnancy because they are getting ready to make milk for the baby. Sometimes the breasts are also itchy or sore.

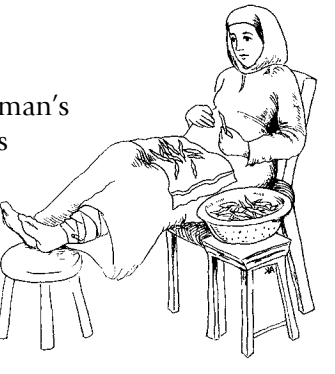
During the last months of pregnancy, a watery, yellowish fluid may leak out of the nipples. This is normal. The fluid is colostrum — the first milk for the baby.

Swollen feet

Swelling of the feet is very common, especially in the afternoon or in hot weather. Swelling of the feet is usually not dangerous, but severe swelling when the mother wakes up in the morning, or swelling of the hands and face anytime, can be signs of pre-eclampsia (see page 125).

Swelling in the feet may improve if the woman puts her feet up for a few minutes at least 2 or 3 times a day, eats fewer packaged foods that are very salty, and drinks more water or fruit juices.

Swollen veins (varicose veins)



Swollen blue veins that appear in the legs or on the woman's genitals are called varicose veins. Sometimes these veins hurt. If the swollen veins are in the legs, they may feel better if the mother puts her feet up often. Strong stockings or elastic bandages may also help.

If the swollen veins are around the genitals, they can cause bleeding problems if they tear during birth. Putting a cool cabbage leaf on the genitals may help.

Constipation (difficulty passing stool)

Some pregnant women have difficulty passing stool. This is called constipation.

To prevent or treat constipation, a woman should:

- eat more vegetables and fruits.
- eat whole grains (brown rice and whole wheat instead of white rice or white flour).
- drink at least 8 cups of clean water a day.
- walk, move, and exercise every day.

Home or plant remedies that soften the stool or make it slippery (like remedies made from psillium seed or certain fruits or fiber plants) may also help.

WARNING! **Pregnant women should not take medicines called laxatives or purgatives for constipation.** These work by making the bowels tighten or contract — and they may cause labor to start too soon. Some can harm the baby.

Also, pregnant women should not wash out the bowels with water (enema). This could also start labor too soon.

Hemorrhoids (piles)

Hemorrhoids are swollen veins around the anus. They may burn, hurt, or itch. Sometimes they bleed when the woman passes stool, especially if she is constipated. The woman should try to avoid getting constipated by eating a lot of fruit and vegetables and drinking plenty of fluids.

Sitting or standing a lot can make hemorrhoids worse. But sitting in a cool bath or lying down can help. Some women say it helps to soak a clove of garlic in vegetable oil and then insert it into the anus.

If you have heard of other remedies, ask an experienced health worker whether they are safe. Some remedies are dangerous for pregnant women and may hurt the baby.

Pregnant women need to urinate much more often.

Needing to urinate often

Needing to urinate (pee) often is normal, especially in the first and last months of pregnancy. This happens because the growing womb presses against the bladder (the place where the body stores urine). It is so common that some midwives joke: "A man who cannot find his pregnant wife should wait near the place where she urinates. If she is not there, she will be soon!"

If urinating hurts, itches, or burns, the woman may have a bladder infection (see page 128) or a vaginal infection (see Chapter 18). Be sure to treat these infections right away — they can cause early labor and other problems.

Discharge (wetness from the vagina)

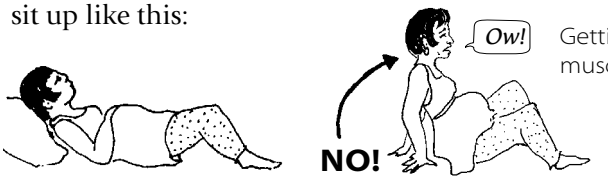
Discharge is the wetness all women have from the vagina. A woman's body uses this discharge to clean itself from the inside. For most women the discharge changes during their monthly cycle. Pregnant women often have a lot of discharge, especially near the end of pregnancy. It may be clear or yellowish. This is normal.

Changes in the discharge can be a sign of an infection if the discharge is gray, green, lumpy, or has a bad smell, or if the vagina itches or burns (see Chapter 18).

Difficulty getting up and down

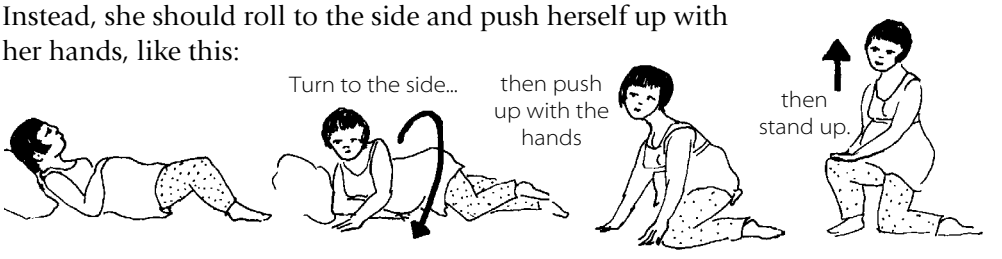
It is better if a pregnant woman does not lie flat on her back. When a woman is on her back, the weight of the womb presses on the big blood vessels that bring food and oxygen to the baby. If the mother wants to be on her back, she should put something behind her so she is not lying completely flat.

A pregnant woman should also be careful how she gets up. She should not sit up like this:



Getting up like this can harm the muscles of the belly.

Instead, she should roll to the side and push herself up with her hands, like this:



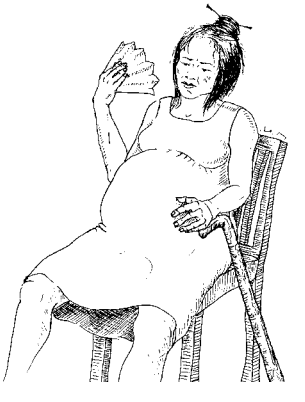
Shortness of breath

Many women get short of breath (cannot breathe as deeply as usual) when they are pregnant. This is because the growing baby crowds the mother's lungs and she has less room to breathe. Reassure her that this is normal.

But if a woman is also weak and tired, or if she is short of breath **all of the time**, she should be checked for signs of sickness, heart problems, anemia (see page 116), or poor diet (see page 117). Get medical advice if you think she may have any of these problems.

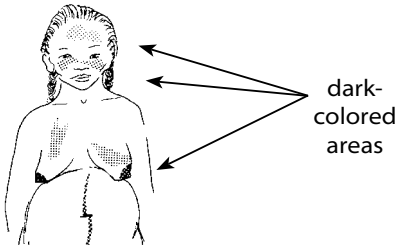
Feeling hot or sweating a lot

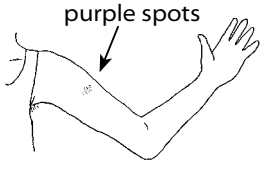
Feeling hot is very common, and as long as there are no other warning signs (such as signs of bladder infection, see page 128), the woman should not worry. She can dress in cool clothes, bathe frequently, and drink plenty of water and other fluids.



The mask of pregnancy

The mask of pregnancy is a name for dark-colored areas that may appear on the face, breasts, and belly of some pregnant women. This mask is not harmful. Usually most of the color goes away after the birth. A woman may be able to avoid dark areas on her face by wearing a hat when she goes out in the sun.





Purple spots on the skin

Purple spots come from small groups of veins under the skin. They sometimes happen when blood vessels swell. They are not harmful and usually go away after the birth.

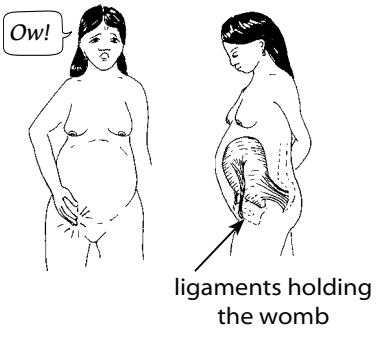
Aches and pains in the joints

A pregnant woman's body gets soft and loose so the baby can get bigger, and so she can give birth. Sometimes her joints also get loose and uncomfortable, especially the hips. This is not dangerous, but she can more easily sprain her ankles or other joints. So she should move more carefully. Her joints will feel better after the birth.

Sudden pain in the side of the lower belly

The womb is held in place by ligaments on each side. Ligaments are like ropes that attach the womb to the mother's bones.

A sudden movement will sometimes cause a sharp pain in these ligaments. This is not dangerous. The pain will stop in a few minutes. It may help to stroke the belly gently, or to put a warm cloth on it.



Cramps in early pregnancy

It is normal to have **mild** cramps (like mild monthly bleeding cramps) at times during the first 3 months of pregnancy. These cramps happen because the womb is growing.

Cramps that are regular (come and go in a pattern) or constant (always there), are very strong or painful, or come with spotting or bleeding are warning signs. The woman may have a tubal pregnancy (see page 113) or may be having a miscarriage (see page 91). She should get medical help immediately.

Baby's kicks hurt the mother

Most of the baby's movements feel good. But sometimes babies kick very hard or always in the same place. And sometimes the baby's head bounces against the mother's back or bladder during the last weeks of pregnancy. These movements may make the mother sore or uncomfortable, but they are not harmful.

WARNING! The mother usually feels regular kicks every day by the 6th or 7th month. If the baby stops kicking for a few hours, it is OK. But **if the mother feels no movement for more than a day and a night, there may be a problem.** The mother should meet with her midwife or get medical help.

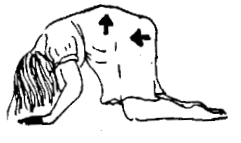
Back pain

Many women get back pain. The weight of the baby, the womb, and the waters puts a strain on the woman's bones and muscles. Too much standing in one place or leaning forward can cause back pain. Hard work can also cause back pain. Most kinds of back pain are normal. But it can be caused by a kidney infection (see page 128).

Encourage husbands, children, other family members, or friends to massage the woman's back. A warm cloth or hot water bottle on her back may also feel good. Her family can also help by doing some of the heavy work (carrying small children, washing clothes, farming, and milling grain) for her.

A woman can also do an exercise — called the angry cat exercise — to reduce lower back pain. She should do this exercise several times in a row, 2 times a day, and whenever her back hurts her.

Start on hands and knees with the back flat.



Push the lower back up.

Return to flat back. Repeat.

Leg cramps

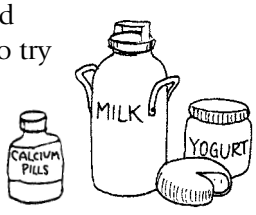
Many women get foot or leg cramps — sharp sudden pain and tightening of a muscle. These cramps especially come at night, or when women stretch and point their toes. To stop the cramp: flex the foot (point it upward) and then gently stroke the leg to help it relax (do not stroke hard). See page 273 to learn when leg pain can be dangerous.

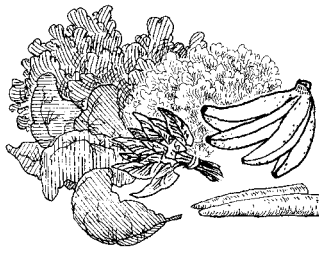
Point the toe up,

then stroke the leg.

Do not point the toe down.

To prevent more cramps, a woman should not point her toes (even when stretching), and she should eat more foods high in calcium and potassium. The woman can also try taking calcium, magnesium, and potassium pills.





Foods rich in calcium and potassium can help prevent leg cramps.

Headaches

Headaches are common in pregnancy but are usually harmless. Headaches may stop if the mother rests and relaxes more, drinks more juice or water, or gently massages her temples. It is OK for a pregnant woman to take 2 paracetamol tablets with water once in a while.

Some women have migraine headaches. These are strong headaches, often on the side of the head. The woman may see spots and feel nauseated. Bright light or sunshine can make them worse. Migraines may get worse in pregnancy.

Unfortunately, migraine medicine is very dangerous in pregnancy. It can cause labor to start too soon, and it may also harm the baby. It is better for a pregnant woman with migraines to take 500 to 1000 milligrams paracetamol, and rest in a dark room. Although coffee and black tea are usually not healthy in pregnancy, they are OK occasionally and they may help cure a migraine.

Headaches late in pregnancy are a warning sign of pre-eclampsia, especially if there is also high blood pressure or swelling of the face or hands. See page 125.

Other pains

It is common to have other small aches and pains during pregnancy.

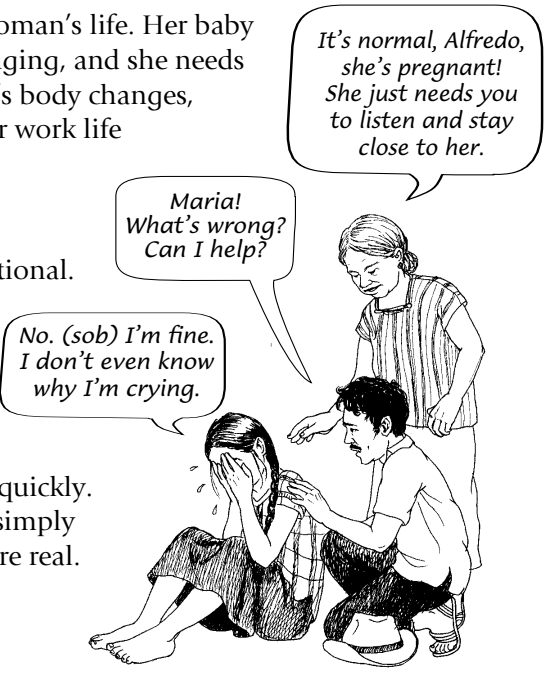
Get medical advice for pain that is not normal in pregnancy, such as:

- red, swollen joints.
- severe pain.
- signs of anemia with joint pain (see page 116 on anemia).

WARNING! **If there is pain in one leg that will not go away, it may be a blood clot.** See page 273 and get medical help.

Changing feelings and emotions

Pregnancy is an important time in a woman's life. Her baby is growing inside her, her body is changing, and she needs more food and more rest. As a woman's body changes, her relationships, her sexuality, and her work life can change too.


It's normal, Alfredo, she's pregnant! She just needs you to listen and stay close to her.
Maria! What's wrong? Can I help?
No. (sob) I'm fine. I don't even know why I'm crying.

Sudden changes in feelings

Pregnancy can make women very emotional. Some women laugh or cry for no clear reason. Some feel depressed, angry, or irritable.

Odd laughing or crying and other sudden mood changes or strong feelings are normal. They usually pass quickly. But do not ignore a woman's feelings simply because she is pregnant. Her feelings are real.

Worry and fear

Many women worry when they are pregnant, especially about the baby's health and about giving birth. A woman's worries about other problems in her life may also become stronger when she is pregnant.

Such worries are normal. They do **not** mean that something bad will happen. Women with these feelings need emotional support, like someone to listen to their worries and encourage them to feel hopeful. They may also need help to solve the problems they are having in their lives, like problems with their partners, money, drugs or alcohol, or other issues.

Strange dreams and nightmares

Pregnant women may have strong, vivid dreams. They can be beautiful, strange, or frightening.

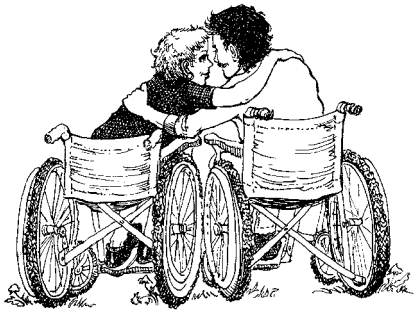
For many people, dreams are an important way of understanding themselves and the world. Some people believe that dreams can tell us about the future or give us messages from spirits.

But usually, when something happens in a dream, that does not mean that it will happen to us in life. The events in the dream may be telling us what we are afraid of or what we desire. Or they may simply be stories our minds make up while we sleep. Women who are having frightening dreams may need someone to talk to about their hopes, fears, and feelings.

Forgetfulness

Some women forget things when they are pregnant. For most women, this is not a big problem. But some may worry if they do not know it is normal. No one knows why women become more forgetful when they are pregnant, but it is common.

Feelings about sex



Some women do not want much sex when they are pregnant. Others want sex more than usual. Both feelings are normal. Having sex and not having sex are both OK for the woman and her baby. Sex is not dangerous for the baby.

Sometimes sex is uncomfortable in pregnancy. A woman and her partner can try different positions for making love. It may feel better with the woman on top, or in a sitting or standing position, or with the woman lying on her side.

There are other ways, besides sexual intercourse, for couples to be close and please each other. Some couples touch and massage each other's bodies. Some talk about hopes and fears together.

Safer sex

When a pregnant woman has sex, it is important to avoid infection by making sure that anything put inside her body is clean. This includes the penis and hands.

A man who is having sex with more than one woman must **always** use condoms — including with his pregnant partner. Condoms are a good way to prevent infections, HIV, and other illnesses. See Chapter 18 to learn more about HIV and other sexually transmitted infections.

Sex and early labor

A woman who has gone into early labor in other pregnancies might choose to avoid sex after the 6th month. This may help prevent going into labor too early.

CHAPTER 7
Learning a pregnant woman's health history

In this chapter:

Questions in a pregnancy health history 86

Does she have signs of pregnancy? . . . 86
How pregnant is she now? When is the baby due? 88
How old is she? 90
How many children has she had? 90
Has she had any miscarriages or abortions? 91
Has she had any problems with past pregnancies or births? 93
Is she healthy? 97
Malaria 98
HIV and AIDS 99
Has she been vaccinated against tetanus? If yes, when? 101
Is she taking any medicines now? . . . 103
Has any medicine ever given her problems? 103
What else in her life might affect her pregnancy and birth? 104
Money 104
Living conditions 104
Distance from care 104
Work 105
Family 105
Making a transport plan 106

Learning a pregnant woman's health history

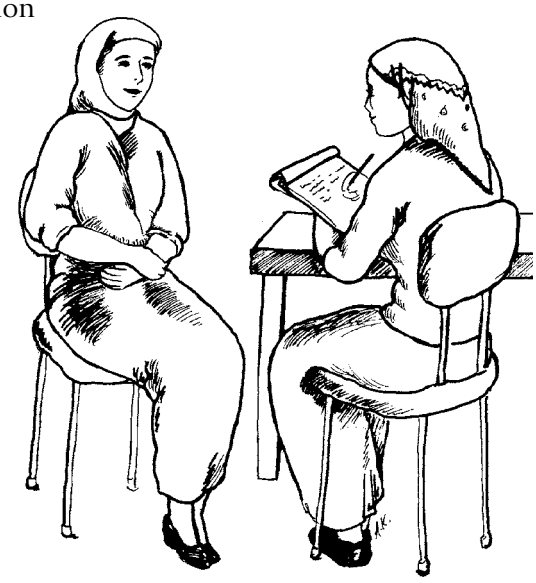
CHAPTER 7

To give good care to a pregnant woman, you should find out about her general health, her past health, and her past pregnancies and births. You also need to know what this pregnancy has been like so far. This is called a health history.

Learning a woman's health history will help you give advice to make this pregnancy and birth as safe as possible.

The best way to learn about a woman's history is to ask her. At first, she may not be comfortable talking with you. If she feels shy about her body or about sex, it may be difficult for her to tell you things that you need to know about her health. Try to help her feel comfortable by listening carefully, answering her questions, keeping what she tells you private, and treating her with respect.

This chapter suggests questions to ask each woman so you can learn more about her. You probably have some questions of your own that you want to ask but that we do not include here. For example, if there is hepatitis B in your community, you may want to ask the woman if she has hepatitis B or tell her how to prevent it. Think about the information you need to know in order to give her good care. What questions do **you** usually ask a pregnant woman?



If you can, write down what you learn about each pregnant woman. This information may be needed later in the pregnancy, or during labor or birth.

After learning a woman's health history, and every time you meet with a pregnant woman, you should do a regular pregnancy checkup. The next chapter of this book, Chapter 8, explains how to do the regular pregnancy checkup.

Questions in a pregnancy health history

Does she have signs of pregnancy?

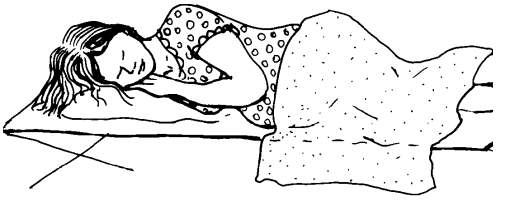
Some signs of pregnancy are sure signs — they mean the woman is definitely pregnant. Some signs are probable signs, meaning the woman is probably pregnant, but the sign could be caused by something else.

Probable signs of pregnancy

The woman's monthly bleeding stops. This is often the first sign of pregnancy. Other possible causes of this sign are poor nutrition, emotional troubles, or menopause (change of life).

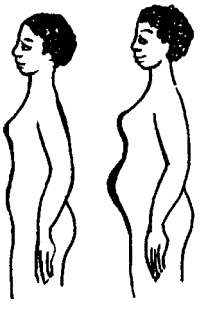
The woman has nausea or wants to vomit. Many pregnant women have nausea in the morning (which is why this feeling is often called "morning sickness"), but some women may feel this way all day. Nausea is common during the first 3 months of pregnancy. Other possible causes of this sign are illness or parasites.

The woman feels tired and sleepy during the day. This is common in the first 3 or 4 months of pregnancy. Other possible causes of this sign are anemia (see page 116), poor nutrition, emotional troubles, or too much work.

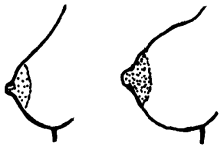


The woman needs to urinate often. This is most common during the first 3 months and the last 1 or 2 months of pregnancy. Other possible causes of this sign are stress, bladder infection (see page 128), or diabetes (blood sugar disease — see page 115).

The woman's belly grows. After 3 or 4 months, the pregnancy is usually big enough to be seen from the outside. Other possible causes of this sign are that the woman has a cancer or another growth in her belly or that she is just getting fatter.



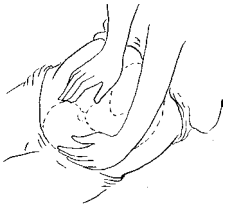
The woman's breasts get bigger. A pregnant woman's breasts get bigger to prepare to make milk for the baby. Another possible cause of this sign is that breasts often get bigger just before monthly bleeding.



The woman feels light baby movements inside. Most women start to feel their babies move between about 16 weeks and 20 weeks of pregnancy (at about 4 or 5 months). Another possible cause of this sign is gas in the belly.

Sure signs of pregnancy

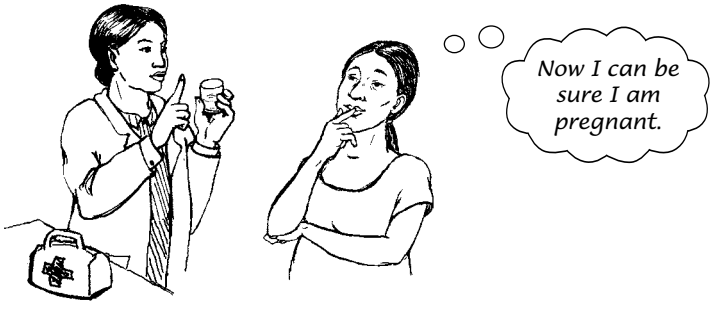
The woman feels strong baby movements inside. Most women begin to feel the baby kicking by the time they are 5 months pregnant.



The baby can be felt inside the womb. By the 6th or 7th month, a skilled midwife can usually find the baby's head, neck, back, arms, bottom, and legs by feeling the mother's belly.

The baby's heartbeat can be heard. By the 5th or 6th month, the heartbeat can sometimes be heard with tools made for listening, like a stethoscope or fetoscope. By the 7th or 8th month, a skilled midwife can usually hear the baby's heartbeat when she puts her ear on the woman's belly (see page 139).

A medical pregnancy test says the woman is pregnant. This test can be done with a kit at home or in a laboratory with a little of the woman's urine or blood. This test can be expensive and is usually not necessary. But it can be useful, for example, if a woman needs to know if she is pregnant before taking a medicine that might harm a baby inside her.



How pregnant is she now? When is the baby due?

Find out how many months pregnant the woman is at the time of her first checkup. This will also tell you the date that she will probably give birth (the due date).

There are 3 ways to figure out how pregnant the woman is now and her due date:

- Use the date of her last monthly bleeding.
- Measure the size of her womb.
- Have the woman get an ultrasound at a medical center.

Note: It is normal and safe for the baby to be born as much as 3 weeks earlier or 2 weeks later than the due date.

Using the last monthly bleeding to predict the due date

If a woman bleeds regularly every 4 weeks, her pregnancy will start about 2 weeks after the first day of her last monthly bleeding. To find out if you can use this method to estimate her due date, you must first ask the mother 3 questions:

1. Has your monthly bleeding been mostly regular, once every 4 weeks (once every month)?
2. Was your last monthly bleeding normal for you (not unusually light or heavy)?
3. Do you remember the date of the first day of your last monthly bleeding?

If the woman answers "no" to any of these 3 questions, you cannot be certain this method will give you a correct due date.

If she answers "yes" to all 3 questions, you can figure out the due date and how pregnant the woman is at this visit.

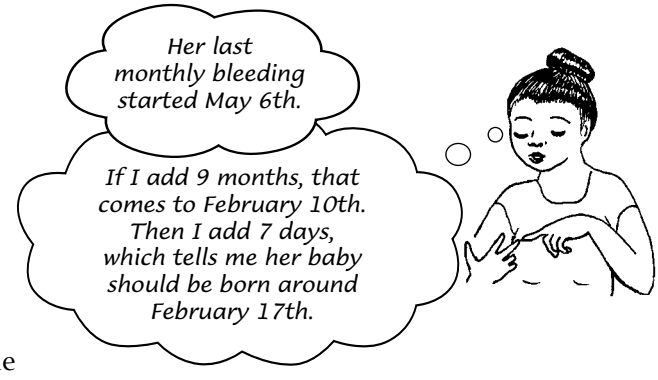
Remember that a pregnancy lasts about 40 weeks or 280 days. This is about 9 calendar months or 10 lunar months from the last monthly bleeding.

Using a calendar

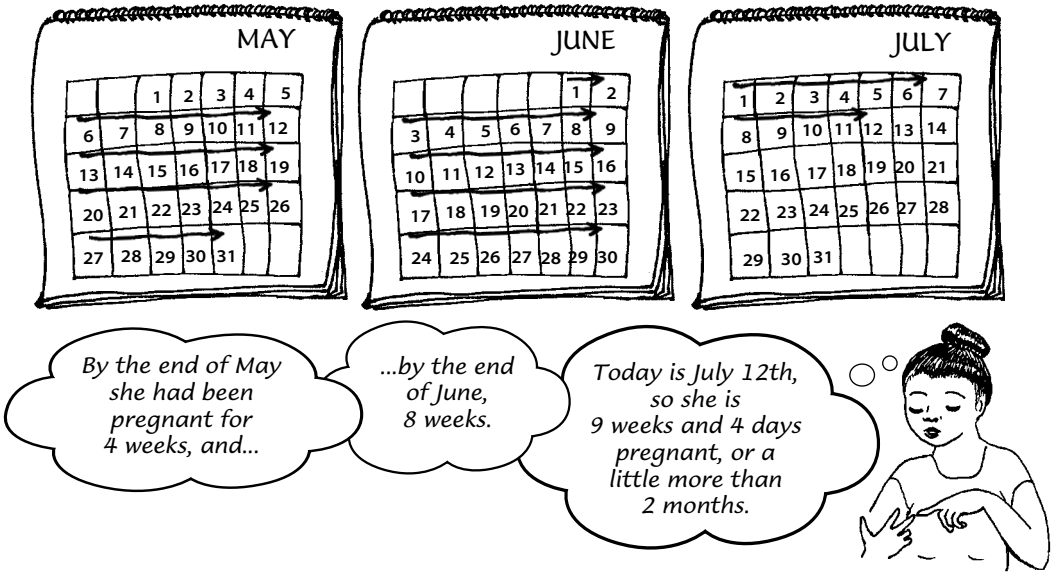
To figure out the due date, add 9 months and 7 days to the day that her last monthly bleeding began.

(You could also subtract 3 months and then add 7 days to get the same date.)

For a helpful tool to estimate the due date using the last monthly bleeding, see page 527.


Her last monthly bleeding started May 6th.
If I add 9 months, that comes to February 10th. Then I add 7 days, which tells me her baby should be born around February 17th.

To figure out how pregnant the woman is now, take the first day of the last monthly bleeding and count the number of weeks that have passed between that day and this visit.


MAY
JUNE
JULY
By the end of May she had been pregnant for 4 weeks, and...
...by the end of June, 8 weeks.
Today is July 12th, so she is 9 weeks and 4 days pregnant, or a little more than 2 months.

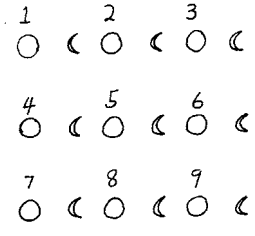
Using the moon

If you do not use calendars, you can find the due date using the moon. If a woman's monthly bleeding is usually about one moon (4 weeks) apart, the baby is due 10 moons after the first day of her last monthly bleeding. If a woman's monthly bleeding started on a quarter moon, the baby is due 10 quarter moons later. If her bleeding started on a new moon, the baby is due 10 new moons later, and so on.

For example:

If her bleeding started on the full moon,

she probably got pregnant on the new moon.



The baby is due 10 lunar months after the first day of her last monthly bleeding —

in this case, 10 **full moons** after the first day of her last monthly bleeding.

Measuring the womb

With practice, a midwife can feel the size of the woman's womb to know how long a woman has been pregnant. Use this method when:

- the woman does not remember when her last monthly bleeding started.
- the last monthly bleeding was unusually light or heavy.
- her monthly bleeding is not regular.
- the woman was breastfeeding and not bleeding regularly when she got pregnant.

There are two ways to measure the womb. During the first 12 weeks (3 months) of pregnancy you can do a bimanual exam to feel the womb from inside the vagina (see page 384). After 3 months you can measure the womb from the outside (see page 130).

Using a sonogram

A sonogram (or ultrasound) machine takes a picture of the baby inside the womb by using sound waves (see page 434). A sonogram done in the first 3 months of pregnancy is usually an accurate tool for showing how far along the pregnancy is. Sonograms are probably not dangerous for the baby, but they are expensive, and they are rarely necessary.

How old is she?

Pregnancy can cause problems for women of any age. But very young women and much older women tend to have more problems.

Girls who become pregnant before they are 17 years old may not have finished growing themselves. A girl's pelvis might not be grown enough to give birth normally. Girls are more likely to have other problems too — like pre-eclampsia, long labors, and babies born too early. Girls who get pregnant when they are very young can be wonderful and caring mothers, but many of them will need extra advice and support.

Older mothers also may have more problems in pregnancy and birth.

It may be safer for older women and very young women to give birth in a well-equipped medical center rather than at home.

How many children has she had?

Women who have had 1 or 2 babies and whose children were born alive and healthy usually have the fewest problems giving birth.

Other women may have more problems. First births are often more difficult than later births. It may be safer for a woman giving birth for the first time to give birth near a medical center. Watch carefully for risk signs and have transportation available for emergencies.

A woman who has given birth to 5 or more babies is more likely to have some of the following problems:

- a long labor
- a torn womb (after a long, hard labor)
- a fallen womb (prolapsed uterus)
- a baby in a difficult position for birth
- heavy bleeding after birth

For these reasons, it may be safer for a woman who has had 5 or more births to give birth in or near a medical center.

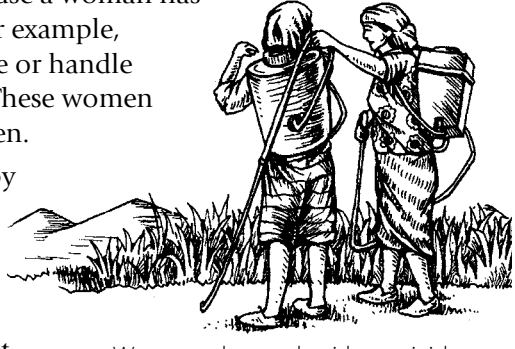
Has she had any miscarriages or abortions?

Miscarriage

A miscarriage (spontaneous abortion) is when a pregnancy ends before the woman is 6 months pregnant, while the baby is still too small to live outside the mother. This is common and often happens before the woman even knows she is pregnant.

It is usually difficult to know why a miscarriage happens, but some causes of miscarriage are preventable. Malaria, sexually transmitted infections, injury, violence, and stress can all cause a pregnancy to end.

Sometimes miscarriages happen because a woman has been near poisons or toxic chemicals. For example, women who work on farms often breathe or handle pesticides which can cause miscarriage. These women have more miscarriages than other women.



Women who work with pesticides or other chemicals are more likely to have miscarriages.

Some miscarriages can be prevented by treating women for illness and infection and by helping them avoid chemical poisons and violence. But some women have one miscarriage after another, and you may not know why. Get medical advice to find the cause and to help her carry this pregnancy all the way through.

Abortion

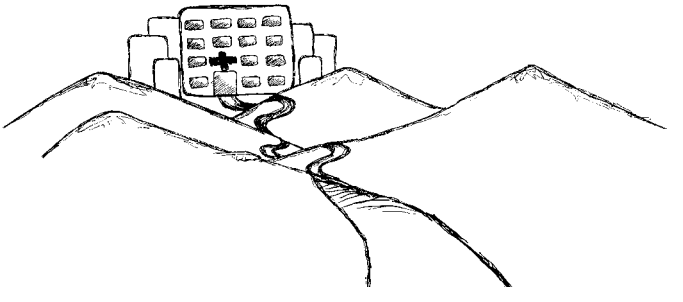
Many women use plant medicines and other remedies to regulate or bring on their monthly bleeding, or prevent or end a pregnancy. These remedies may be safe, but ask the woman if she has ever had a problem — such as pain, heavy bleeding, or infection — after using any plant or any kind of medicine.

If some person, or the woman herself, does something to her body to end a pregnancy, we call this an abortion. Where abortion is legal and available, a woman can have a safe abortion that will not usually endanger her future pregnancies. There are 3 kinds of abortion that can be safe:

- **Vacuum aspiration.** A health worker uses a machine or manual vacuum aspiration (MVA) syringe to empty the womb (see Chapter 23). If vacuum aspiration is done correctly, it is usually safe.
- **D&C** (dilation and curettage). A health worker empties the womb by scraping it with a sterile instrument. A woman who has had more than 3 D&C abortions may have scar tissue on the womb that can make a later pregnancy difficult. Get medical advice.
- **Medication Abortion.** The woman takes medicines that end the pregnancy and empty the womb. The medicines that are known to be safe and effective for this purpose are mifepristone followed 2 days later by misoprostol. See page 485 to learn how these drugs can be used safely.

In places where abortion is illegal, a woman trying to end a pregnancy may harm herself or turn to someone who does not give abortions safely. Unsafe abortions can cause heavy bleeding, serious infection, infertility, or even death. See Chapter 22 to learn how to help a woman after an unsafe abortion.

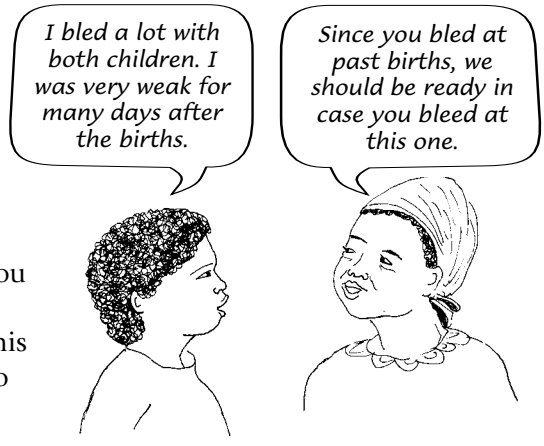
A woman who was sick, injured, or bled heavily after any kind of abortion may have scars in her womb that could cause problems in this pregnancy or birth. It is probably safest for her to give birth in or near a hospital or medical center.



Has she had any problems with past pregnancies or births?

If a woman has had problems with past pregnancies or births, she may have problems with this birth too.

Ask the mother to tell you the story of each of her past pregnancies and births. Let her tell you everything: the good **and** the bad. Then ask the following questions to learn more about problems in past pregnancies and what to be prepared for during this one. If you can, write down what you learn. (Many of these problems are explained more fully in other parts of this book. Turn to the page number listed to learn more about the problem.)


I bled a lot with both children. I was very weak for many days after the births.
Since you bled at past births, we should be ready in case you bleed at this one.

Was she tired or weak (anemic)?

Extreme tiredness or weakness in pregnancy is usually caused by anemia (lack of iron in the blood). If she had anemia in another pregnancy, she is likely to have it again in this pregnancy. Anemia causes problems in pregnancy and birth, but it can be prevented by eating lots of foods with protein and iron in them and by taking iron pills. (See page 116.)

Did she have high blood pressure?

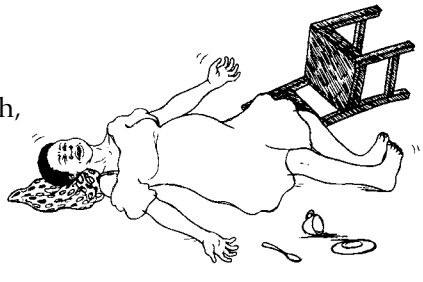
If she had high blood pressure in a past pregnancy, she is likely to get it again. High blood pressure (see page 124) can be a sign of pre-eclampsia.

Did she have pre-eclampsia?

If a woman had pre-eclampsia in a past pregnancy, she is in danger of getting pre-eclampsia again. Check her blood pressure and other signs of pre-eclampsia regularly in this pregnancy. (See page 125.) Be prepared to get medical help if pre-eclampsia develops.

Did she have fits (convulsions)?

If she had convulsions in a past pregnancy or birth, get medical advice. She probably had eclampsia (see page 181). She is likely to get it again, and she should give birth in a medical center or hospital.



Did she have diabetes (blood sugar disease)?

If she had diabetes in a past pregnancy, she is more likely to get it again. If possible, she should be tested by a doctor or health worker. Diabetes in the mother can lead to miscarriage or other problems with the mother or baby after birth. (See page 115.)

Did she have a very long labor or a long pushing stage?

Was her labor longer than 24 hours for a first baby, or longer than 12 hours for other babies (see page 186)? Did she push for more than 2 hours? Ask if her long labor caused problems for her or her baby. If that birth was healthy and the baby was OK, then she will probably not have a problem with this birth. If that birth was not normal, ask her if she knows why the labor was long. Did she have anemia? Was the baby in a difficult position or very big? Was she very afraid? You may need to get medical advice.

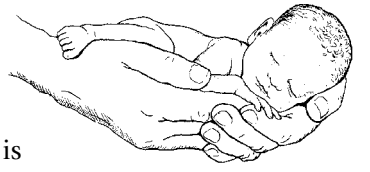
Did she have a fistula?

If she had a long labor leading to a fistula (an opening in the tissue of the vagina) she should have this birth in a hospital. (See page 273.)

Did she have a very short labor (less than 3 hours)?

If the mother had a very short labor in the past, make sure she and her family know what to do if you do not get there in time. You can teach the family how to deliver a baby in an emergency.

Did she have an early birth?



If she had a baby born more than a month early, ask her if she has signs of bacterial vaginosis (BV, see page 328). Bacterial vaginosis can lead to early births. Be ready in case this baby is early too, and watch for signs of labor. (See page 149.)

Did she have a small baby (less than 2.5 kilograms or 5 pounds)?

Find out if the baby was born early (it is normal for early babies to be small). If the baby came on time, ask the mother if she had anemia, high blood pressure, or pre-eclampsia. Also ask if she had enough to eat, or if she smoked cigarettes or used drugs. Any of these things could have made the baby small.

Check to see if this baby is growing normally. If you think this baby may be very small for her age, the mother should probably give birth in or near a medical center, because small babies can have more health problems. (See pages 221 and 256.)

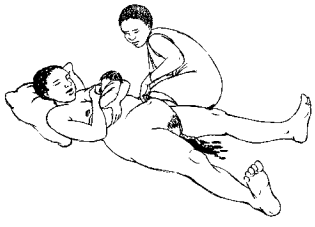
Did she have a big baby (over 4 kilograms or 9 pounds)?

Ask if the birth was difficult. If it was not, this birth will probably be OK too. Look for signs of diabetes (see page 115). Check carefully to see if this baby seems big too. If possible, have the mother tested for diabetes.

Did she have heavy bleeding before or after the birth?

If she bled a lot in a past pregnancy or birth, it is likely to happen again. Ask her to tell you as much as she can remember about her bleeding. Did she need medical help? Was she anemic? Was she too weak to stand? The answers to these questions will help you prepare for what may happen at this birth. If possible, a woman who bled heavily before should have her babies in a medical center. Be ready to treat her for heavy bleeding after the birth. (See page 224.)

Did she have any problems with the placenta?



If the woman's placenta did not come out easily in a past birth (see page 227), she may have the same problem again. Be ready to treat her for bleeding. It is better if she gives birth in or near a medical center.

Did she have a fever or infection of the womb during or after the birth?

This birth may be fine, but she has more risk of infection than other women. Be sure to check her for signs of vaginal infection (see Chapter 18).

Was she very sad (depressed) after the birth?

If a woman became depressed after a past birth, it may happen again. Be prepared to help if this happens (see page 274).

Did the baby get sick or die before, during, or after the birth?

Find out if the baby was sick or died. If some of her babies died, she may have a problem in her blood called Rh incompatibility (see page 504). Or the deaths could have had other causes. Check the mother for high blood pressure (see page 122), diabetes (see page 115), anemia (see page 116), malnutrition (see page 117), and illness. These can all cause death in babies. Get medical advice.

Did her baby have birth defects?

- Some birth defects run in the family. Ask about the type of birth defect and if anyone else in her or the baby's father's family has that birth defect. The next baby may have the same problems.
- Some defects are caused by illnesses like herpes or rubella. If the woman had herpes or rubella in a past pregnancy, it probably will not cause birth defects in this pregnancy. Pregnant women should avoid people who are sick.
- Some birth defects are caused by exposure to toxic chemicals, drugs, or medicines. (See pages 45 to 47.)
- Some birth defects are caused by poor nutrition. (See pages 33 to 39.)
- Some birth defects just happen — no one knows why.

See page 266 to learn more about birth defects.

Did she have a cesarean surgery (birth by operation)?

In a cesarean surgery, a doctor cuts open the woman's belly and womb to get the baby out. After the baby is out, the doctor sews the womb and belly closed. This leaves one scar on the womb and a second scar on the belly. Sometimes a cesarean surgery is done because the baby does not fit through the mother's pelvis. Sometimes it is done because the baby is in danger and must be born very quickly.

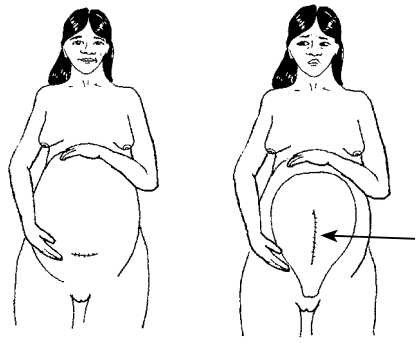
Note: Cesarean surgeries save lives, but in many places they are used too much — usually for the convenience of the doctor or because women falsely believe that a cesarean will be easier. Cesareans should only be used in emergencies.

Most women can have a safe vaginal birth even if they had a cesarean with a previous baby. But there is a very small chance that the scar on the womb may tear open during labor. If this happens, the woman could bleed inside and she or the baby could die. For this reason, it is safest for a woman who has had a cesarean to give birth in or near a medical center or hospital. If she is planning to give birth at home, arrange for her to have medical care in case there are any problems during the labor.

If any of the following are true, this woman should definitely go to a medical center for the birth:

- The cesarean was less than 2 years ago.
- This baby is big or in a difficult birth position.
- The woman had a cesarean because her pelvis was not formed well as a child. This is usually caused by poor nutrition.
- The scar on the womb is up-and-down.

Unfortunately, you cannot tell anything about the scar on the womb by looking at the belly. The scar on the belly can be one way, and the scar on the womb inside can be another. You can only find out by checking the medical records at the hospital or by asking the doctor who did the surgery.



A scar that goes one way on the outside...

...may be hiding a scar on the womb that goes another way.

Is she healthy?

A pregnancy is more likely to go well for a woman who is in good health. See Chapter 4 for general ideas for staying healthy. Also see Chapter 18 to learn about avoiding vaginal infections. Some general health problems can cause serious problems in pregnancy.

If a pregnant woman is sick with any of the following problems now, she should get medical help to plan for her needs during pregnancy and decide if she should give birth in a medical center:

- diabetes (see page 115)
- HIV and AIDS (see page 99)
- bladder or kidney infection (see page 128)
- malaria (see page 98)
- fever over 38°C (100.4°F) for more than 2 days (see page 178)
- high blood pressure (see page 122)
- liver disease (hepatitis, especially hepatitis B, see page 336)
- heart problems
- untreated tuberculosis
- deformity of the hips or lower back

If a woman has EVER had any of the following problems, she should see a doctor or experienced health worker during her pregnancy to find out whether she still has a problem:

- hepatitis (see page 336)
- kidney infection (see page 128)
- pre-eclampsia (see page 125)
- frequent fevers
- tuberculosis

Malaria

Malaria is an infection of the blood that causes chills and fever. It is very common in young girls, first-time mothers, and women who are sick with other illnesses. Malaria is especially dangerous for pregnant women and their babies. A pregnant woman with malaria is more likely to have anemia, miscarriage, early birth, small baby, stillbirth (baby born dead), or to die.

Malaria is spread by mosquitoes. To prevent malaria, avoid mosquito bites.

- Get rid of standing water and stay away from wet places where mosquitoes breed.
- Use local remedies to get rid of mosquitoes. Some people use citronella oil on their skin.
- Use mosquito repellent when mosquitoes are biting.
- Sleep under treated bed nets or hang treated curtains in doors and windows.

Treated bed nets are safe, but do not spray pesticides on bedding.

It is important for pregnant women to avoid malaria — and to be treated quickly if they get sick. Malaria medicines may be costly and can have side effects, but **these medicines are much safer than becoming sick with malaria**.

Unfortunately, malaria treatment is not the same everywhere or for every person. In many places the medicines that were once used to prevent or treat malaria do not work anymore. Newer medicines or combinations of medicines are given in these places. Also, someone who is very sick with malaria may need a different treatment than someone who is only mildly sick. Some medicines normally given for malaria, such as primaquine, are not safe during pregnancy.

Where malaria is common, all pregnant women may be given medicines to prevent it. Find out what medicines the local health authority recommends for this.

If a woman is already sick with malaria, she should be treated right away. In many places, chloroquine is the recommended treatment. It is safe in pregnancy, and if the malaria comes back it can be treated again.

To treat malaria with chloroquine

- give 600 mg chloroquine .....by mouth, once a day for 2 days

  and then give 300 mg choloroquine on the third day

If the woman does not start to get better on day 2, she may need other medicine.

Chloroquine will not work in some places. Get medical help or find out what medicines the local health authority recommends.

If you cannot find which treatment is recommended in your area, you can give this combination of medicine that works everywhere and is safe after the first 3 months of pregnancy.

To treat malaria after the 3rd month of pregnancy

- give 300 mg artesunate (artemisinin) ..... by mouth, once a day for 7 days

and

- give 600 mg clindamycin ..... by mouth, 2 times a day for 7 days

There is now a rapid test for malaria. In many places, midwives are being trained to use it to know quickly who should be receiving treatment.

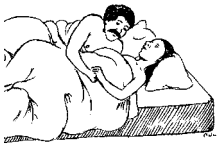
HIV and AIDS

AIDS is an illness that develops when a person cannot fight infections. AIDS is caused by a tiny virus (a type of germ) called HIV. A person can have HIV for many years before showing any signs of illness. But eventually HIV makes it difficult for the person to fight infections, and the person will start to have health problems. When a person with HIV is ill more and more, and illnesses become more difficult to treat, the person has AIDS. Medicines and good nutrition can help people fight infections caused by HIV and allow them to live long and productive lives. There is no cure for HIV, however.

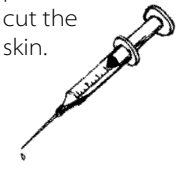
How HIV spreads

HIV lives in the body fluids of people who are infected with HIV: blood, semen, wetness from the vagina, and breast milk. The virus spreads when those fluids get into the body of another person. This means that HIV can be spread by:

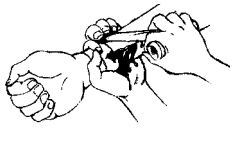
sex with someone who has HIV, if the person does not use condoms.



unsterile needles or tools that pierce or cut the skin.



infected blood that gets into cuts or an open wound of another person.



an infected mother to her baby, during pregnancy, birth, or breastfeeding.

In places where blood has not been tested for HIV, people have also been infected with HIV from blood transfusions.

It is impossible to know by looking at someone whether he or she has HIV. People can take a blood test for HIV, but without this most people do not know they have HIV until they are very sick. Their HIV can spread at any time though. For this reason, it is important for everyone to protect themselves from HIV by practicing safer sex, using condoms consistently and correctly (see page 302) and by sterilizing tools and equipment (see page 59).

HIV cannot live on its own in the air or water.
So **HIV cannot spread in these ways:**

- touching, hugging, or kissing
- sharing food or dishes
- sharing a bed or clothing
- sharing latrines
- insect bites

Touching does not spread HIV.

Midwives can help stop HIV

HIV is a growing problem everywhere. As a midwife, you can work to stop the spread of HIV. Encourage all pregnant women and their partners to be tested for HIV. Help women who have HIV plan carefully for pregnancy, and prevent pregnancies they do not want (see Chapter 17). Midwives can also work to prevent new HIV infections in women who are pregnant or breastfeeding. New HIV infections during pregnancy are more likely to spread HIV to the baby too.

An important way to do this is to teach men and women about using condoms. Remember though, even when people know how condoms protect them from HIV, they may need support to use this knowledge. For example,

- Some people, especially young people and women, do not have much choice about how they have sex. If they do not want sex, or they want to use condoms, their partners may not listen.
- Some people do not want to use condoms. They may wish to become pregnant. They may not like how condoms feel. They may want sex to feel free and unplanned, or feel that using condoms is a sign of distrust. Some people cannot afford to buy condoms, or cannot find them easily.
- Some people just feel hopeless. If many people around them are sick or dying from AIDS, they may feel there is no way to prevent it, and they do not try.

These challenges are not easily solved. But the health and future of all of us depends on stopping HIV, so it is important to try. Find ways to talk to people and to encourage them to talk to each other about why people have difficulty protecting themselves from HIV.

Care for pregnant women with HIV

Give a pregnant woman with HIV the same respect and care you would give any woman.

> ***Note:*** Many women find out for the first time that they have HIV when they are pregnant. These women need support to cope with this news, and what it may mean for their families. They also need health workers and midwives to take care not to discuss a woman's HIV status with anyone (including each other) without her knowledge and consent.

Pregnant women with HIV need to take even more care with their health than others. Eating well, avoiding infections, and treating illnesses quickly are most important. Encourage a pregnant woman with HIV to see you or another health worker regularly. Watch these women for signs of other sexually transmitted infections (see Chapter 18). Help them prevent malaria (see page 98) and get tested for TB (tuberculosis). Help women (and their partners, if needed) get treatment for these or any other infections.

A woman with HIV who is 3 months pregnant or more can also prevent many infections (pneumonia, diarrhea, malaria, and others) by taking a low-cost antibiotic called cotrimoxazole every day (see page 478).

It is important that a pregnant woman with HIV gets treated for her HIV as well as getting normal care in pregnancy. Help her find medical care nearby, and if possible an HIV treatment program. If there is a well-equipped medical center in your area, it would be better for her to give birth there.

Medicines that fight HIV can protect a baby

Without taking steps to prevent it, about 1 out of every 4 babies born to women with HIV is infected with HIV when the baby is born. Pregnant women with HIV can take HIV medicines (ART) while they are pregnant, and greatly lessen the risk of HIV infection for the baby.

Some women with HIV need ART for their own health (see pages 335 and 492). Some pregnant women with HIV take ART only as prevention for the baby, and stop sometime after the birth. The baby needs to take medicines after being born. See page 495 for more about these uses of ART. (Also see page 293 to learn about preventing the spread of HIV while breastfeeding.)

Along with causing infections, HIV can also cause a woman to have more problems with her pregnancy.
These include:

- miscarriage, especially late in pregnancy (loss of pregnancy and stillbirth).
- early birth (being on ART also makes this more likely).
- bleeding and infection after birth.

A midwife should be prepared for any of these if caring for a pregnant woman with HIV.

Has she been vaccinated against tetanus? If yes, when?

Tetanus (lockjaw) is caused when a germ that usually lives in dirt or stool enters the body through a wound. A woman can get tetanus if something that is not sterile is put into her womb or vagina during or after childbirth or from an unsafe abortion. A baby can get tetanus if the cord is cut with something that is not sterilized, or when anything (like dirt or dung) is put on the cord stump.

Tetanus vaccinations

Everyone should get a series of vaccinations to prevent tetanus. It is best if these vaccinations happen early in life to prevent ever getting sick.

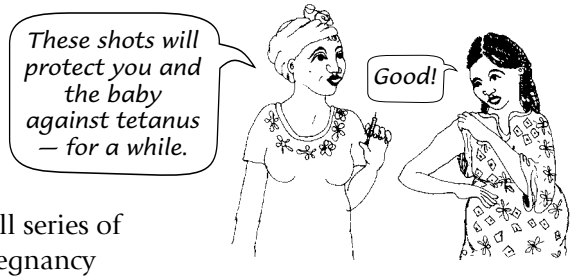
Give tetanus vaccinations (tetanus toxoid) according to this schedule:

- **Injection 1:** best to give to children, but can be given at any time in life
- **Injection 2:** 4 weeks after injection 1
- **Injection 3:** at least 6 months after injection 2
- **Injection 4:** 1 to 3 years after injection 3
- **Injection 5:** 1 to 5 years after injection 4

After these injections, everyone needs another injection at least once every 10 years.

People who have received all of these vaccinations will not get sick if they are exposed to tetanus.

Pregnant women who have not received all the vaccinations listed above should receive 2 injections, 4 weeks apart. These 2 vaccinations will protect a woman for only 3 years. If you cannot give her the full series of vaccinations, you must give the 2 pregnancy vaccinations again the next time she becomes pregnant.



To protect pregnant women from tetanus, give these vaccinations:

- **Injection 1:** the first time you see the pregnant woman
- **Injection 2:** best if given earlier than 4 weeks after the first injection and at least 4 weeks before the end of the pregnancy. But it is not dangerous to give the second injection early if you need to.

Vaccinations during pregnancy will also protect the baby from tetanus during the first few weeks after birth. But the baby must be vaccinated after birth so that the protection will continue.

It is hard to know how much protection a woman already has against tetanus. Most people do not remember if they had the vaccinations or not. If you do not know that someone has had the vaccinations, assume that she has not. Vaccinate her in this pregnancy — an extra vaccination will not harm her.

Is she taking any medicines now?

It is best for a woman to avoid modern medicines and plant medicines during pregnancy. There are many medicines that can harm the baby inside the womb.

If a woman needs to take a medicine, see the green medicine pages at the end of this book to find out whether that medicine is listed as **safe** in pregnancy. If the medicine is not listed, get medical advice.

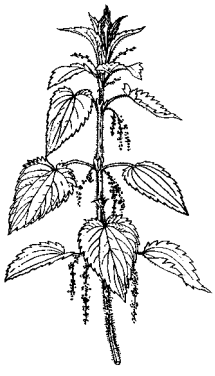
Supplements and tonics

Some modern and plant medicines that are not dangerous are called supplements or tonics. Prenatal vitamins and iron pills are healthy and safe supplements. They help the body get the vitamins and minerals it needs.

Some plants are not used to heal sickness, but to make the body stronger. These herbs have vitamins and minerals that help the baby grow. They are safe and helpful in pregnancy. Some of these tonic plants are nettles, alfalfa, and red raspberry leaf. These plants have different names around the world, so ask someone experienced with plant medicines before giving any tonic herbs to pregnant women.

Stinging nettles *(Urtica dioica)* contain calcium, vitamin K, folic acid, and other important nutrients.

But cover your hands when you pick them or you will be stung!



Has any medicine ever given her problems?

If the woman has ever had a health problem after taking a medicine, like a rash, swelling, or difficulty breathing, **do not give her that medicine.** Those problems are signs of allergy. If a woman takes a medicine that she is allergic to, she might become very sick or even die. An allergic reaction can happen at any time during the rest of her life.

Write down the name of the medicine so you can both remember it. Explain to the woman that she must never use the medicine again, and that she should always tell her doctors or health workers what happened when she used the medicine.

Note: Some kinds of medicines come in "families." They are very similar to each other. For example, penicillin and ampicillin are in the same family. This is why their names are similar. If a woman is allergic to one member of a family of medicines, she is probably allergic to the other members of that family. See page 471 to learn more.

Medicines that are not in the same family as the one she is allergic to are as safe for her as for anyone else.

What else in her life might affect her pregnancy and birth?

Money

Not having enough money causes many problems for women and their families. It causes physical problems, like not having enough food. And it also causes emotional problems, like feeling stress, fear, and sadness. All of these problems can make pregnancy, birth, and raising children much harder.

The very least that a woman needs during pregnancy is healthy food and a way to get medical help in an emergency.

If the woman you are helping cannot afford these things, help her find them or borrow them.

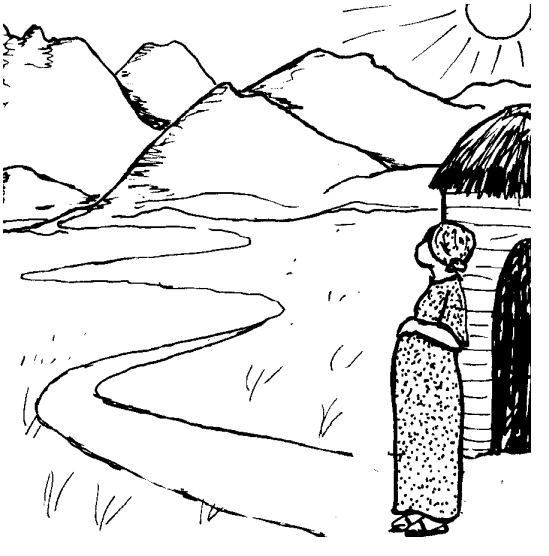
Living conditions

- Is there a clean and private place she can give birth?
- Is clean water available?
- Does anyone in her house have a serious disease that she might catch (contagious disease)?
- Does anyone smoke cigarettes in the house? Is there a smoky cooking stove inside the house? This smoke is very harmful.

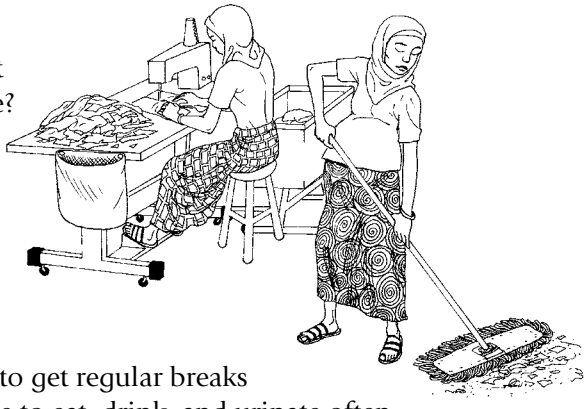
Help her find a clean, safe place to give birth.

Distance from care

- Will she be able to come to her pregnancy checkups? Can you go to her?
- If she lives far away, can you teach her to do some of the pregnancy checkup herself?
- How far is the maternity center, clinic, or hospital? Does she need to stay somewhere else near the end of her pregnancy to be closer to medical help?
- Is there a telephone or radio she can use in an emergency?



Work



- How much does she work at home and outside her home?
- Does she have time to rest?
- Does her work expose her to dangers — like chemicals? (See page 47.) Can she be protected from work dangers?

It is important for the woman to get regular breaks from her work. She should be able to eat, drink, and urinate often. Her work should not put too much strain on her body.

Family

Partners and other family members can be supportive and can share in the responsibility of the pregnancy. They can help with housework, care for other children, help the woman get enough good food and rest, and can enjoy the growing pregnancy with the woman.

Some women need extra support

Women who do not have much family support, have no partner, or who have a partner who is not supportive may need extra care.

Single mothers are often wonderful and caring parents, but their lives may be harder than those of married women. People may treat single mothers badly, making assumptions about their morals and ignoring their needs. Give single mothers the kindness they deserve, and offer extra care if they do not have family or friends to help.

Very young mothers may have been forced into marriage as young girls, often to much older partners. These girls need particular support.

Women with abusive partners who get drunk or abuse drugs, are often away from home, have sex with other people, or abuse the woman will need support from family, friends, and you. A woman may need to leave her partner, or may choose to stay until she has a safe place to go. See the book ***Where Women Have No Doctor*** for more information on abusive partners.

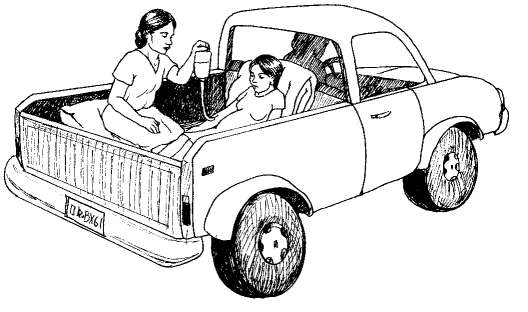
Families save lives

Partners and family are usually the key to a good emergency plan. Find out if the woman needs permission to get medical help in an emergency. For example, if the community expects the husband to give the woman permission to go to a medical center or hospital, he should do so during the pregnancy, so that if he is away during the birth there will be no delay in getting life-saving care.

Teach the husband, mother-in-law, or other close family members the warning signs that mean a woman must be taken to get medical help.

Warning signs in pregnancy and birth — get medical help fast!

- bag of waters breaks early, and labor does not start within 24 hours (see pages 174 to 175)
- labor is too long — longer than 24 hours (see page 186)
- pre-eclampsia (see page 125)
- infection (see page 178)
- heavy bleeding (see page 224 to 226)

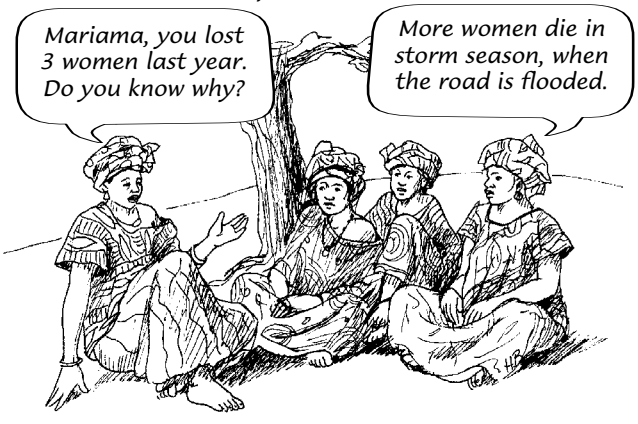


Making a transport plan

Any woman can have serious problems that require medical help. If a woman has heavy bleeding, an infection, pre-eclampsia, or some other serious problem during labor or birth, she may have a difficult time getting emergency care. A family with no car who lives far from medical help may have no way to get there. They may be poor and afraid they will be unable to pay what the local hospital demands.

If everyone waits until a problem arises to think about how to get medical help, there may not be a solution. But with planning before the birth — while the woman is still pregnant — the woman, her family, her midwife, and her community can make a plan that can save the life of the woman or her baby. Make a transport plan before the birth with each woman. Involve her family and community in making the plan.

A community transport plan should address all the reasons for delays in getting medical help. To understand these reasons, talk to other midwives who have lost mothers or babies during labor or birth. Talk to families who lost a baby or a mother too. Ask about when the midwife or family first knew there was a problem, and how long it took them to get help. Find out why the midwife and family did not go for help sooner. If possible, these families could meet and all talk to each other. Invite community leaders to listen to what these families and midwives have to say.



A midwife or a family might delay getting emergency care for many reasons:

- The woman, family, or neighbors may feel that the husband or another family member must give permission for the woman to get care.
- The midwife may feel afraid that people at the medical center will blame her for causing the problem.
- The family or the midwife may feel there is no hope — that going to a medical center will not help.
- The family may not have money.
- There may be no car, truck, or other transportation.

After naming the reasons why families in the community do not get help, find solutions. You may be able to find a solution within the family. If the husband must give permission for the woman to go to the hospital, he can give permission in advance of the birth in case he is not home. Some problems are best solved by the whole community. In some villages, every family contributes a small amount of money every year. Anyone in the community who needs medical help can use the pool of money to pay for transportation to a medical center in an emergency.

If everyone understands the problems that women in labor face, they can work together to help women get medical care. By talking to families and communities about the need for emergency medical care, you can help them make a plan that works.

CHAPTER 8
Prenatal checkups

In this chapter:

Talk with the mother **109**

Observe her general health 110
Ask if she has any nausea or vomiting 110
Ask if she feels weak 111
Ask if she has any bleeding from the vagina 112
Ask if she has any unusual pain in the belly, back, or legs 113
Ask if she has shortness of breath ... 114
Check for signs of diabetes 115

Check the mother's body **116**

Check for signs of anemia 116
Check for signs of poor nutrition or lack of iodine 117
Weigh the mother 118
Check the mother's temperature 119
Check the mother's pulse 120
Check the mother's blood pressure .. 122
Check for signs of pre-eclampsia (toxemia of pregnancy) 125
Check for signs of bladder or kidney infection 128

Check the baby **130**

Measure the mother's womb 130
Find the position of the baby 135

After the checkup **144**

Make a time for the next prenatal visit 144

Record of prenatal care **145**

Prenatal checkups

CHAPTER 8

The regular prenatal (pregnancy) checkup has 3 main parts: talking with the mother, checking the mother's body, and checking the baby. Try to write down what you learn about the mother and baby during each visit.

For each part of the checkup, we list healthy signs and warning signs. If you find a warning sign, be sure to follow instructions for what to do. You may be able to take care of the woman yourself or she may need medical help. At times we suggest that you get medical advice. This means you will need a skilled health worker or doctor to help you decide if there is an emergency or if the woman is OK. If no doctor is willing to give you advice, you will have to send the woman to a medical center for help.

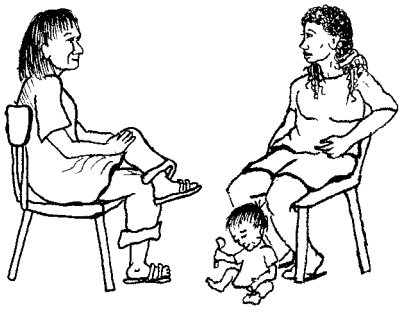
WARNING! The following are the most important warning signs to look for in a pregnant woman:

1. **bleeding from the vagina** (see page 112)
2. **severe pain in the belly** (see page 113)
3. **high fever** (see page 120)
4. **high blood pressure, headache, dizziness, or blurred vision** (see page 125)

At each checkup, remind the mother to get medical help if she has any of these signs.

Talk with the mother

Start the checkup by talking. Ask the mother how she has been feeling and how her pregnancy is going. Find out if she has any complaints or questions.



Observe her general health

HEALTHY SIGNS Mother looks, sounds, and feels healthy and happy.

WARNING SIGNS Mother looks, sounds, or feels unhealthy or unhappy.

While you are talking with the mother, notice everything that you can about her general health. For example:

- Does she have plenty of energy, or is she tired and ill?
- Does she move easily, or is she stiff and slow?
- Does she seem to think and talk clearly, or is she confused?
- Does she have clear skin, or does she have sores and rashes?
- Does she seem happy, or is she sad?

If the mother's general health seems poor, give her extra care, even if you do not know exactly what is wrong. Pay attention if you have a feeling that something is wrong, and remind her to tell you right away if things get worse. She may need medical advice.

Ask if she has any nausea or vomiting

HEALTHY SIGNS Mother has no nausea or vomiting, or mild nausea in the first 3 or 4 months.

WARNING SIGNS

- Mother has severe vomiting, or is unable to keep even water in her stomach.
- Mother can only urinate a little bit, or stops urinating, or her urine is very dark.
- Mother gains less than 1 kilo (2 pounds) in a month after the first 3 months.

Many women have nausea in the first 3 or 4 months of pregnancy. This is not usually dangerous. But if a woman vomits a lot, feels too sick to eat, or cannot keep down even fluids, she will have problems. She and her baby may become malnourished. The nausea may also be a sign that something else is wrong.

If the nausea is mild and in early pregnancy, see page 73 for some helpful remedies to give the mother. If these remedies do not work, or if vomiting is severe, get medical advice. There are medicines that help calm the stomach so she can eat.

If the mother has diarrhea (loose watery stool) or other signs of illness along with vomiting, get medical advice. She should be checked for infection, malaria, ulcers (sores in the stomach), and parasites (harmful worms or other tiny animals living in people's intestines).

If the mother has parasites but they are not causing too many problems, she should probably wait until after the birth to take medicine. Some medicines for parasites harm the baby, especially during the first 3 months of pregnancy. If illness from parasites is severe and the woman is not gaining weight normally or has other signs of illness, get medical advice.

If the mother is unable to keep fluids down and stops urinating, get medical help immediately. She may already have severe dehydration, which is very dangerous. She will need intravenous fluids (fluids given in the veins, which are also called IV fluids, see page 350) and medicine. If you are trained in starting IV fluids, start them while you are traveling to get medical help.

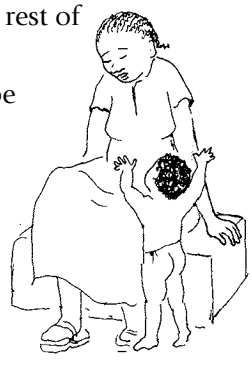
If other people in the area also have trouble with nausea, vomiting, or diarrhea, there may be a problem with the local water. It will not help to give the mother medicines for parasites if she will get parasites again from bad water. If the water is bad, she should only drink it after boiling it or cooking with it. See the book ***Where Women Have No Doctor*** for simple ways to purify water.

Ask if she feels weak

HEALTHY SIGNS Mother has plenty of energy.

WARNING SIGNS Mother feels weak or tired all of the time, especially after the 4th month.

It is normal for a pregnant woman to feel sleepy in the first 3 months and in the last 4 to 5 weeks of pregnancy. But during the rest of pregnancy she should have plenty of energy.



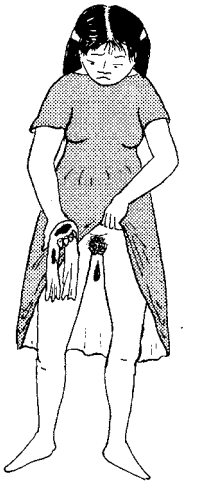
If a woman is weak or tired for a long time, she may be suffering from one or more of the following problems:

- poor nutrition (see pages 33 to 42)
- anemia (see page 116)
- depression (see page 274)
- too much work
- illness

Help her find out what is causing her weakness. A mother who feels very weak is more likely to have problems in labor and birth. She may have a long, difficult labor, bleed heavily, or get an infection after the birth. Her baby is also more likely to get sick.

Ask if she has any bleeding from the vagina

HEALTHY SIGNS



- No bleeding.
- Very light bleeding or spotting for a few days during the first months, with no cramps.
- Pink or slightly bloody mucus 2 to 3 days before labor begins. This mucus is called show or the mucus plug.

WARNING SIGNS

- Bleeding as much as monthly bleeding at any time during pregnancy.
- Bleeding with pain at any time during pregnancy.
- Bleeding with no pain in the second half of pregnancy (placenta previa).

Bleeding with cramps during the first 6 months

If the mother has bleeding with cramps, she may be having a miscarriage. If the bleeding is light (spotting), the risk is low.

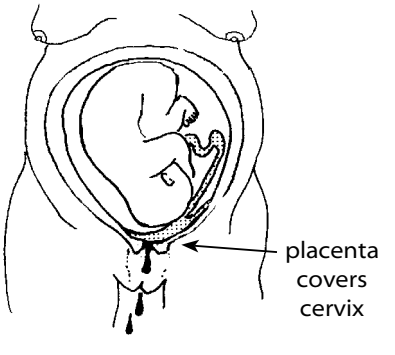
Get medical help if:

- the bleeding is like a monthly bleeding or heavier.
- the mother is more than 3 months pregnant.
- the mother has a fever.
- there is severe pain or a bad smell from her vagina.

See Chapter 22 to learn how to help a woman with problems after a miscarriage.

Placenta previa

Bleeding with no pain, especially in the second half of pregnancy, may mean the placenta is covering, or partially covering, the cervix instead of being near the top of the womb where it should be. This is called placenta previa. When the cervix starts to open near the end of pregnancy, the womb side of the placenta is not protected. It is like a raw wound. The mother's blood flows through the placenta and out the vagina. This is very dangerous. The mother and baby may die.



placenta previa

Never do a vaginal exam for a woman who might have placenta previa.
Treat her for shock (see page 239) and **get medical help immediately**!

Ask if she has any unusual pain in the belly, back, or legs

HEALTHY SIGNS No pain in the belly, back, or legs. Or aches and pains that are not dangerous, just uncomfortable, such as:

- mild, irregular cramps high in the belly, all over the belly, or inside the belly (also called practice contractions, see page 150).
- sudden, sharp pains low in the front but to the side that last a few minutes and then go away (see page 79).
- lower back pain that feels better with rest, massage, or exercise.
- sharp pain in the buttocks that runs down the leg and feels better with rest.

WARNING SIGNS

If the mother has any of the following pains, there may be a problem.

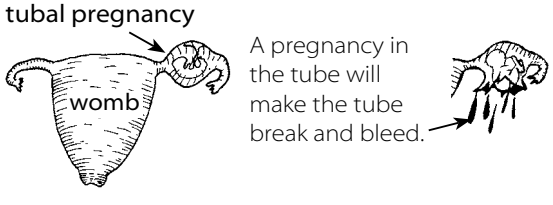
- Cramps or belly pains in the first 6 months that get stronger or come regularly may mean that a miscarriage is starting. (See page 91.)
- Pain in one leg that does not go away can be a sign of a blood clot in the leg. (See page 273.)
- Constant pain in the lower belly that goes through the sides into the back, or back pain that does not get better with rest, massage, or exercise, especially if the mother also has a fever, may be caused by a bladder or kidney infection. (See page 128.)
- Any belly pain with fever can be a sign of womb infection. (See page 179.)
- Constant belly pain in late pregnancy may mean the placenta is coming off the womb wall. (See page 114.)
- Strong, constant belly or side pain in the first 3 months may mean that this is a tubal pregnancy. (See below.)

Constant pain early in pregnancy (tubal pregnancy)

Constant pain in the belly during the first 3 months may be a sign that the pregnancy is growing in the wrong place.

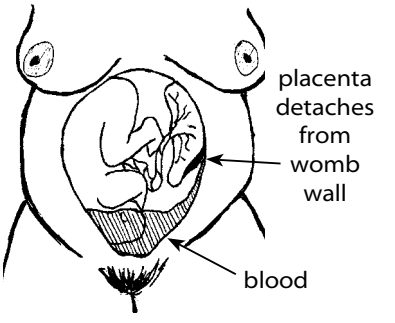
The baby usually grows in the womb, where it belongs. But in rare cases, it may start to grow in the tube that leads from the ovary to the womb. This is called a tubal pregnancy. Tubal pregnancy is very dangerous.

At first the tube stretches. But as the pregnancy grows, the mother may feel a sore lump or pain on her side. Then, sometime before she is 3 months pregnant, the tube breaks and bleeds. This bleeding usually stays inside the body where no one can see it, but it can bleed enough to kill the woman. If you think that the pregnancy may be growing in the tube, **get medical help immediately**! Watch for signs of shock (see page 239).



Constant pain and bleeding late in pregnancy (detached placenta)

Pain in the belly during the last few months of pregnancy may mean the placenta has come off the wall of the womb. This is called a detached placenta, or abruption of the placenta (see page 184). The mother may be bleeding heavily inside. A womb full of blood may feel hard. This is very dangerous — the mother and baby may die. Get medical help immediately! Watch for signs of shock (see page 239).



detached placenta

Note: A pregnant woman can have a pain in her belly from an illness that is not related to her pregnancy. The illness could be caused by appendicitis (an infection of part of the intestines, with fever, pain on the right side of the belly, and lack of appetite), parasites (with nausea or diarrhea), or ulcers (sometimes with vomiting and black, tarry stool). Get medical advice if you think the mother may have one of these illnesses.

Ask if she has shortness of breath

HEALTHY SIGNS Some shortness of breath, especially late in pregnancy, is normal.

WARNING SIGNS A lot of shortness of breath, especially with other signs of illness, is a warning sign.

Many women get a little short of breath when they are 8 or 9 months pregnant. As the baby gets bigger, it squeezes the lungs so there is less room to breathe. Breathing may get easier when the baby drops lower in the belly shortly before labor begins.

Shortness of breath can also be caused by:

- allergies
- anemia (see page 116)
- heart problems
- tuberculosis (a contagious lung disease)
- asthma
- lung infection
- a blood clot in the lung (see page 273)

If the mother has trouble breathing all of the time, or severe trouble even one time, or if you think she may have any of the illnesses above, get medical advice.

Check for signs of diabetes

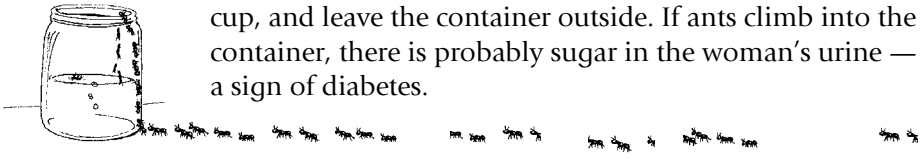
WARNING SIGNS

If a woman has some of the following warning signs, she may have diabetes. Women with diabetes do not always have all of these signs. But the more signs a woman has, the more likely it is that she has diabetes.

- She had diabetes in a past pregnancy.
- One of her past babies was born very big (more than 4 kilograms or 9 pounds), or was ill or died at birth and no one knows why.
- She is fat.
- She is thirsty all the time.
- She has frequent yeast infections.
- Her wounds heal slowly.
- She has to urinate more often than other pregnant women.
- Her womb is bigger than normal for how many months she has been pregnant.

When a woman has diabetes, her body cannot use the sugar in her blood. There is a blood test for diabetes. Ask your local health department if they can give the test. The best time to do this test is at about 6 months (24 weeks) of pregnancy.

A simple test for diabetes



Ask a woman to urinate into a container like a pot or a cup, and leave the container outside. If ants climb into the container, there is probably sugar in the woman's urine — a sign of diabetes.

How to help a woman with diabetes

Diabetes can make a woman very sick and childbirth more dangerous. Her baby may be very big, have birth defects, or it may become very ill and die after the birth.

Usually diabetes in pregnancy will improve if the woman eats a good diet and exercises. Sometimes medicine is needed to prevent serious problems.

If you think that a woman has diabetes, she should get medical help. She should probably plan to have her baby in a medical center. She must eat a variety of healthy foods (see pages 33 to 42), avoid candy and sugar, and eat frequent small meals.

For more information about diabetes, see the book ***Where There Is No Doctor*** or another general health book.

Check the mother's body

Check for signs of anemia

HEALTHY SIGNS General good health and plenty of energy.

WARNING SIGNS

- Pale inside of eyelids, fingernails, and gums.
- Dizziness or fainting.
- Weakness or tiredness.
- Fast pulse (over 100 beats a minute).
- Difficulty breathing.

There is also a blood test for anemia.

When someone has anemia, it usually means she has not been able to eat enough foods with iron (see page 36). Iron helps the blood carry oxygen from the air we breathe to all parts of the body. Some kinds of anemia are caused by illness, not lack of iron. And some kinds of anemia are inherited (genetic). They cannot be cured by eating iron foods or iron pills.

Many pregnant women have anemia, especially poor women. Women with anemia have less strength for childbirth and are more likely to bleed heavily, become ill after childbirth, or even die.

How to treat anemia

Ordinary anemia can usually be cured by eating foods high in iron (like beans, yams and meat) and foods high in vitamin C (like citrus fruits and tomatoes), and by taking iron supplements. After using these methods, the mother should be checked again in about 4 weeks. If she is not getting better, get medical advice. She may have an illness, or she may just need a stronger iron supplement.

iron-rich foods

To treat anemia with iron supplements

- give 300 to 325 mg ferrous sulfate.....by mouth, 2 times a day

If a woman is very anemic in the 9th month of pregnancy, she should plan to have her baby in a medical center.

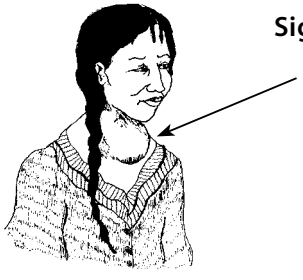
Check for signs of poor nutrition or lack of iodine

HEALTHY SIGNS General good health and a lot of energy.

WARNING SIGNS

Signs of general poor nutrition:

- Not wanting to eat.
- Not gaining weight.
- Weakness and general ill health.
- Sores, rashes, or other skin problems.
- Sore or bleeding gums.
- Stomach problems or diarrhea.
- Burning or numbness of the feet.



Signs of lack of iodine:

- Goiter (swelling in the front of the throat).
- Short children, or children with deafness or hypothyroidism, a disability that affects thinking.

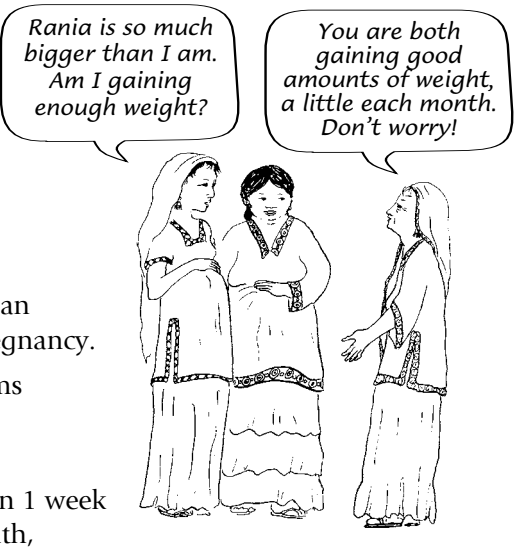
See page 38 for ways to get more iodine.

What to do for poor nutrition

The best way to prevent or cure poor nutrition is to help people eat well. Find out what the mother has been eating. See pages 33 to 42 to find ways to help her eat better. Remember: vitamin pills and tonics can be helpful in pregnancy, but they cannot replace a good diet!

A woman with poor nutrition is more likely to have a difficult birth, a too-small baby, and more difficulty recovering from birth. If you are worried that a woman may have a hard birth because of poor nutrition, get medical advice.

Weigh the mother


Rania is so much bigger than I am. Am I gaining enough weight?
You are both gaining good amounts of weight, a little each month. Don't worry!

HEALTHY SIGNS Mother slowly and steadily gains between 9 and 18 kilograms (20 to 40 pounds) during pregnancy. This is the same as 1 to 2 kilograms (2 to 4 pounds) each month.

WARNING SIGNS

- Mother is very thin or gains fewer than 9 kilograms (20 pounds) during pregnancy.
- Mother gains more than 19 kilograms (42 pounds) during pregnancy.
- Mother gains weight suddenly — more than 2 kilograms (4 pounds) in 1 week or 4 kilograms (8 pounds) in 1 month, especially in the last 2 months of pregnancy.

Most of the weight a woman gains during pregnancy is from her baby, the placenta, and the bag of waters. The mother also puts on some fat. This is healthy.

If you have a scale, weigh the mother at each visit. If possible, always use the same scale.

What to do if you find warning signs

Mother is very thin or does not gain enough weight

Some women are small or thin and may stay small or thin during pregnancy. That is normal. But all pregnant women should steadily gain weight. If the mother does not gain enough weight, try to find out why. Ask the mother about:

- her eating (see page 33).
- hookworm and other parasites (see page 37).
- drug use (see page 46).
- nausea and vomiting (see page 73).
- HIV and AIDS (see page 99).
- money problems (cannot afford food — see page 104).

Mother is very fat or gains a lot of weight

Women of all sizes can be healthy and have safe births. But gaining a lot of weight can be a warning sign of diabetes. If a woman is very fat, or gains a lot of weight in pregnancy, look for other signs of diabetes (see page 115).

Mother gains weight suddenly

If a mother gains weight suddenly near the end of her pregnancy, it may be a sign of twins (see page 143) or pre-eclampsia (see page 125).

Check the mother's temperature

HEALTHY SIGNS Temperature is close to 37°C (98.6°F). Woman does not feel hot-to-touch.

WARNING SIGNS Woman has a fever — a temperature of 38°C (100.4°F) or above. Woman feels hot-to-touch.

How to check the temperature

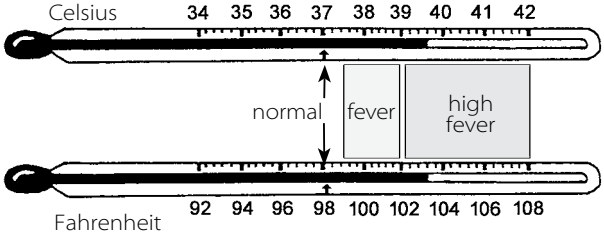
Put the back of one hand on the woman's forehead, and the other on your own or that of another healthy person. If the woman has a fever, you should be able to feel that her skin is hotter than that of a healthy person.

If you have a thermometer, clean it well with soap and clean water or alcohol. Shake with a snap of the wrist until the thermometer reads less than 36°C (96°F).

Put the thermometer under the tongue and leave it there for 3 minutes. The woman should keep her mouth closed.

Take the thermometer out and turn it until you see the silver line. The point where the silver stops marks the temperature.

There is usually a little arrow at the "normal" point.



Always clean the thermometer with soap and cool water or with alcohol after you use it. Do not use hot water — it can break the thermometer!

Glass thermometers are filled with mercury, a very poisonous metal. Be careful with glass thermometers, and if they break, do not pick up the mercury with your bare hands. Sweep the mercury into a jar and bury it. Do not let children play with thermometers or mercury. Get a digital thermometer if you can.

digital thermometer

What to do if the woman has a fever

A fever can be caused by:

- sickness — like flu or malaria (see page 98).
- an infection of part of the body — like a bladder infection (see page 128) or a womb infection (see page 179).

A mild fever can also be caused by dehydration.

Find the cause of the fever, and then treat it. Along with treating the cause, a high fever needs to be lowered right away.

To lower a fever

- give 500 to 1000 mg paracetamol .....by mouth, every 4 to 6 hours

And have her drink 1 cup of water every hour. If she is too sick to drink, give rectal fluids (page 342) or IV fluids (page 350).

If the fever does not come down in 8 hours, get medical help.

Check the mother's pulse

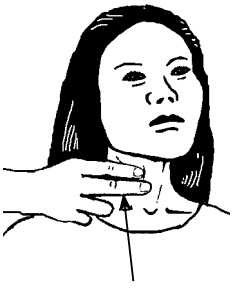
HEALTHY SIGNS Pulse is about 60 to 80 beats a minute when the mother is resting.

WARNING SIGNS Pulse is 100 or more beats a minute when the mother is resting.

The pulse tells you how fast the heart is beating. Everyone's pulse is different. That is normal.

How to check the pulse

1. Wait until the mother is resting and relaxed.
2. Put the pads of two fingers on the pulse. Do not use your thumbs.



You can find the pulse on the side of the throat, under the jaw...

or on the wrist below the thumb.

3. Count the number of beats in a minute:
   - If you have a watch with a second hand, count the number of beats in the mother's pulse for 1 minute. Write the number down.

     (At first, have someone watch the clock for you and tell you when a minute has passed. Many people find it hard to count accurately while looking at a watch. They tend to count one pulse beat every second, no matter how fast the pulse is really beating.)
   - If you do not have a watch with a second hand, check the pulse anyway. You can learn to tell if it is slow, normal, or fast compared to your own pulse, and to other women's. Or you can make a homemade timer to use instead of a watch (see page 443).

What to do if the woman has a fast pulse

If the mother's pulse is 100 beats or more a minute, she may have one or more of the following problems:

- stress, fear, worry, or depression (see pages 104 and 274)
- anemia (see page 116)
- infection like malaria (see page 98), bladder infection (see page 128), or womb infection (see page 179)
- heavy bleeding (see page 112)
- harmful drugs in her blood (for example, from using cocaine or methamphetamines or taking diet pills — see page 46)
- thyroid trouble
- heart trouble

If you suspect any of these causes, turn to the page number listed for more information. If you do not know what is causing the fast pulse, get medical advice.

Note: Some healers check other traits of the pulse. For example, in many parts of Asia, healers feel how strong and how easy to feel the pulse is. In this book, we only teach how to check how fast the pulse is beating. If you usually check the pulse for other traits, try checking how fast it beats too.

Check the mother's blood pressure

HEALTHY SIGNS Blood pressure stays between 90/60 and 140/90 and does not go up much during pregnancy.

WARNING SIGNS High blood pressure. The mother has high blood pressure if either of these is true:

- The top number is over 140.
- The bottom number is over 90.

(Very low blood pressure is also a warning sign, but is usually only caused by heavy bleeding or shock. See page 180.)

A woman's heart is like a pump, pumping her blood through her body. High blood pressure means that the heart must work harder to press the blood through tight or shrunken blood vessels (veins and arteries). Blood pressure numbers show how hard the blood has to press.

When a woman has high blood pressure during pregnancy, it is harder for her blood to bring food to the baby. The baby then grows too slowly. Very high blood pressure can also cause the mother to have kidney problems, bleeding in the womb before birth, or bleeding in the brain.

Blood pressure is not the same as the pulse. You can have a slow pulse with high blood pressure.

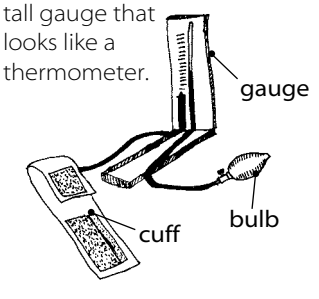
High blood pressure can also be a sign of pre-eclampsia (see page 125). Pre-eclampsia can cause premature birth, bleeding, convulsions, or even death for the mother.

For these reasons it is very important to check the mother's blood pressure.

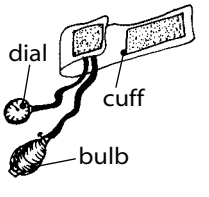
How to check blood pressure

There are several types of blood pressure equipment.

Some have a tall gauge that looks like a thermometer.



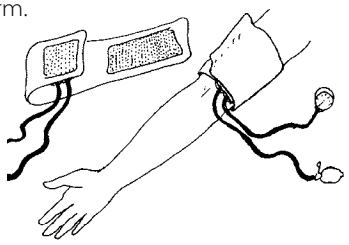
Others have a round dial.



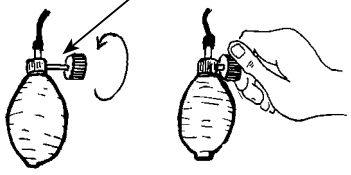
Blood pressure equipment usually comes with a stethoscope. (See page 445 for how to make a homemade stethoscope.)

When you take the mother's blood pressure, first tell her what you are going to do and why.

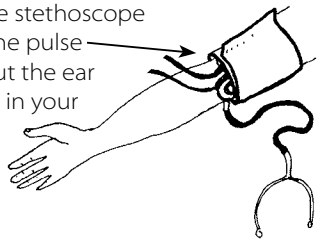
1 Fasten the cuff around the bare upper arm.



2 Close the valve on the rubber bulb by turning the screw to the right. The screw will get shorter.

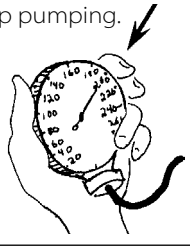


3 Feel for a pulse just below the cuff, on the inside of the elbow. Put the stethoscope over the pulse and put the ear pieces in your ears.

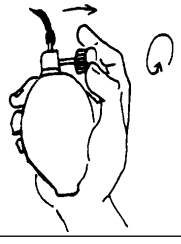


4 Pump the cuff up by squeezing the bulb.

5 As you pump, the needle will move. When it reaches 200, stop pumping.



6 Then open the valve just a little so that the air leaks out slowly.

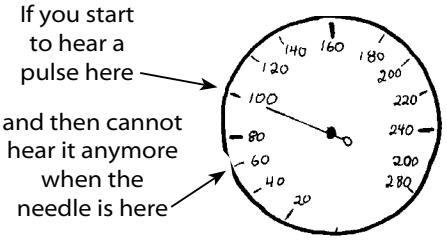


7 The needle will begin to go back down. (If the valve is closed, it will stay at 200.)

8 As the air leaks out, you will start to hear the mother's pulse through your stethoscope.

Notice where the needle or mercury is:

1. when you start to hear the pulse (this will be the top number), ***and***
2. when the pulse disappears or gets very soft (this will be the bottom number).



then the blood pressure is: 100/60.

pregnancy

Check the mother's blood pressure at each visit. Write it down on a chart or on one piece of paper, so you can look for changes over time.

If her blood pressure is going up, ask her to come back every week until you are sure that it is not still rising.

If it is ever higher than 140/90, then the blood pressure is too high and can be a warning sign.

Sept 13	100/60
Oct 12	110/62
Nov 15	94/58
Dec 10	100/66
Jan 12	110/72

This woman's blood pressure goes up and down a little from month to month. This is normal.

If her blood pressure is 140/90 or higher

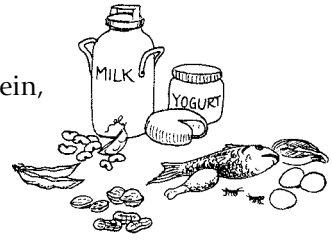
If the mother's blood pressure is high the first time you take it, have her lie on her left side. Help her relax (stress or fear can cause blood pressure to go up). In 10 to 30 minutes, take her blood pressure again.

- If the blood pressure goes down to a normal level, things are probably OK. If possible, have the mother come back in a few days so you can take her blood pressure again. Ask her to rest on her side every day.
- If the blood pressure does not go down, there may be a problem. To find out, take her blood pressure later that day, or the next day. If the blood pressure stays high, get medical advice. Teach the mother the danger signs of pre-eclampsia and check to see if she has any of those signs (see page 125). If she has these signs, get medical help fast. It will probably be safest for her to give birth in a medical center.
- If the top number of the blood pressure is over 150, or if the bottom number is over 100, get medical help now. She must get medical help. In some cases, she may need to stay at a medical center until she has the baby.

Home care for moderately high blood pressure (between 140/90 and 150/100)

If the mother cannot see a doctor or if the doctor advises her to rest at home, she should:

- **Rest often during the day.** She should rest as much as she can during the day, even if it is just for several minutes every hour. When she rests in bed, it is best if she rests on her left side. The mother can practice relaxing and feeling peaceful during these rest times. It is especially important to rest in the last 3 months of pregnancy.
- **Eat a good diet.** Help the woman eat a variety of vegetables, fruits, and protein. Foods high in protein, calcium, or magnesium all may help prevent pre-eclampsia. Eating cucumbers, beets, bananas, or lemon or lime juice might help lower blood pressure.



- **Drink a lot of liquid**. Have the woman drink plenty of clean water, herb teas, soups, or other healthy fluids.
- **Avoid very salty foods.** A little salt is fine, but women with high blood pressure should avoid foods with a lot of salt like potato chips, salted nuts, or processed meats.

Check for signs of pre-eclampsia (toxemia of pregnancy)

Pre-eclampsia is a very dangerous problem that can happen in late pregnancy, during labor, or in the few days after a woman has a baby. It can lead to convulsions (eclampsia) and even death.

HEALTHY SIGNS Normal blood pressure.

WARNING SIGNS The 2 most sure signs of pre-eclampsia are:

- high blood pressure (140/90 or higher).
- protein in the urine (see page 126).

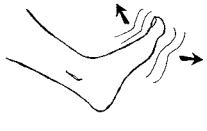
If a woman has both of these signs, she already has pre-eclampsia and needs medical help right away.

If she has high blood pressure and any of these signs of pre-eclampsia, she probably has pre-eclampsia — and you should get medical help:

- Strong headaches.
- Vision changes such as spots, blurriness, or double vision.
- Steady, severe pain in the top of the belly or the right side just under the ribs. It may feel like acid indigestion.

  If you think the pain may be caused by indigestion, you can give an antacid. If the pain does not get better in 20 minutes, it is a danger sign.
- Overactive reflexes. Check the foot for overactive reflexes:

Have the woman lie down and hold her foot like this. Give a sharp push, then let go.



If the foot jerks 2 times or more, it is a danger sign.

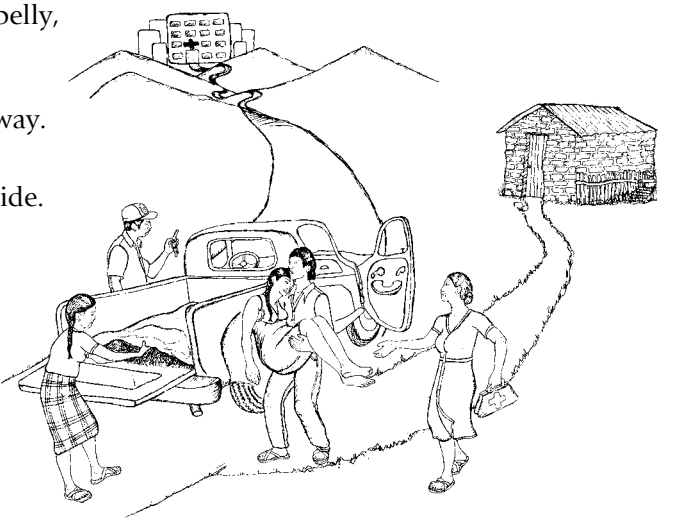
Get medical help immediately if you also see any of these signs:

- Baby seems too small. Your measurements of her womb show the baby's growth is too slow.
- Little urine. She is drinking enough liquid but making only a little urine.
- Trouble breathing, or wet-sounding lungs.

A woman with pre-eclampsia needs medical help immediately

A woman with high blood pressure and any other sign of severe pre-eclampsia (protein in the urine, strong headaches, blurred vision, pain in the top of the belly, or overactive reflexes) should be taken to a medical center right away.

On the way, she should lie on her left side. Someone should go with her in case she has a convulsion. For more about convulsions, see page 181.

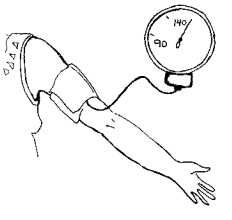


Other warning signs of pre-eclampsia are:

- swelling of the face and hands (especially if she has the swelling when she first wakes up in the morning).
- sudden weight gain.

If she has these signs, continue to check her regularly.

Checking for pre-eclampsia



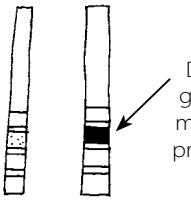
high blood pressure

1. Check the woman's blood pressure. High blood pressure is always a warning sign.

2. If possible, check for protein in the urine. There are 2 methods for doing this.

   Method 1: Use small plastic strips called *Uristicks*, *Albusticks*, or *Labsticks* to check for protein.

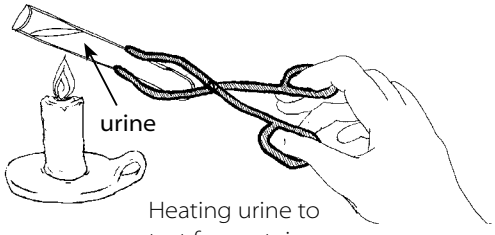
   You may be able to get a bottle of these sticks from the local health authority or pharmacy. The strips have different color squares that turn from yellow to dark green. Ask the mother to urinate on the stick, and then compare the color of the squares with the color chart on the bottle. If the square turns dark green, there is protein in the urine. This is the most accurate way to check for protein.



Dark green means protein

Method 2: Heat the mother's urine to check for protein.

Ask the mother to wash her genitals well and then urinate into a clean container. Then pour the urine into a test tube to within 2½ centimeters (or one inch) of the top of the tube. Heat the upper part of the tube over a small burner, low flame, or candle until the urine boils. (Keep turning the test tube or the glass will break.)



Heating urine to test for protein

If the urine is clear, there is no protein in it. If the urine becomes cloudy and white, add a few drops of vinegar (2% acetic acid). If the cloudiness goes away there is no protein in the urine. If it stays cloudy or gets whiter, there is protein in the urine. If the woman has protein and high blood pressure, she has pre-eclampsia. When a woman has severe pre-eclampsia, the urine may become very cloudy, white, and thick.

3. Ask the mother if she has had any headaches, dizziness, or trouble seeing.

If these problems are severe or happen often, especially if they start in the last 3 months of pregnancy, they can be signs of pre-eclampsia.

4. Check for swelling. Swelling is also called water weight, water retention, or edema.

Swelling is common during pregnancy, and it is not usually a serious warning sign. Swelling is normal when it is on the ankles and feet, and when it goes away after the woman rests with her feet up. If the woman is having swelling, she should drink plenty of water, take more breaks during the day, and put her feet up when she can.

Swelling can be a sign of pre-eclampsia if:

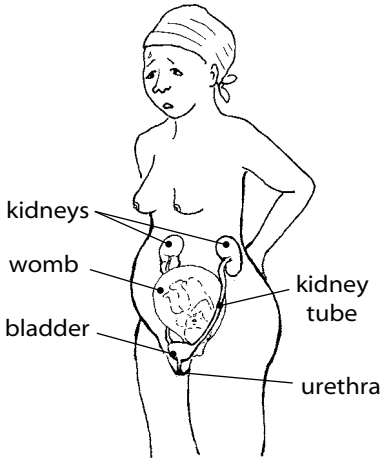
- the woman's hands or face are puffy or swollen **and**
- the woman has swelling when she first wakes up in the morning

What to do if you find warning signs

If a mother has warning signs, get medical help (even if the birth is several months away). It may be safer for her to give birth in a medical center. If you must do the birth at home, be prepared for problems. Read the sections on bleeding (see page 224), convulsions (page 181), and small babies (page 221).

If the mother is told to rest at home, encourage her to follow the instructions for home care for high blood pressure on page 124.

Check for signs of bladder or kidney infection



The kidneys, kidney tubes, bladder, and urethra (the opening where urine comes out of the body) are all connected and work together to get rid of body wastes. First the kidneys clean the blood and turn waste into urine. Then the urine goes down the kidney tubes to the bladder. The urine stays in the bladder until you urinate.

When harmful germs get into the urethra, it can become infected. That infection can easily spread to the bladder or kidneys.

HEALTHY SIGNS No pain, itching, or burning when urinating.

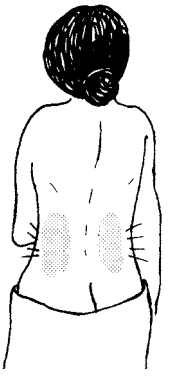
WARNING SIGNS

Bladder infection

- constant feeling of needing to urinate, even after having just urinated
- pain or burning while or just after urinating
- pain in the lower belly, behind the front of the pelvis
- protein in the urine

Kidney infection

- any signs of bladder infection
- cloudy or bloody urine
- pain in the lower back, sometimes on the sides
- fever
- feeling very sick or weak



Pain along the sides of the back may be normal, or — especially if only on one side — it may be a sign of kidney infection.

Sometimes a woman has a bladder infection but she has no signs.

(Back pain along the spine is common in pregnancy. It can be helped with massage, exercise, or hot compresses.)

A woman is more likely to get infections of the urethra, bladder, or kidneys during pregnancy than at other times. Bladder and kidney infections can be dangerous for the mother and can also cause her to start labor too early if they are not treated right away.

Note: Itching or burning while urinating can be a sign of infection of the vagina or a sexually transmitted infection. See Chapter 18 to learn more about treating these infections.

What to do if you find signs of bladder infection

Encourage the mother to **drink 1 glass of liquid every hour while she is awake**. Liquids help wash infection out of the body. Water and fruit juices are especially good to drink.

Encourage the mother to eat fruits that have a lot of vitamin C, like oranges, guavas, kiwis, mangos, or jujubes.

Use local plant medicines that fight infection or heal injured tissues. Two plant medicines that you might be able to use are:

- **corn silk tea** — boil the tassels from an ear of corn (maize) and then drink.
- **marshmallow tea** — soak chopped pieces of the root of the marshmallow plant *(Althaea officinalis)* in cold water overnight and then drink.

Boil a large handful of corn silk in water and drink 1 or 2 cups.

If the infection does not start to improve quickly, or **if the woman has any signs of kidney infection, give antibiotics**. The longer you wait to treat an infection, the more difficult it will be to cure. If she is not better after 2 days of antibiotics, get medical help.

See the green medicines pages at the end of this book before giving this or any medicine.

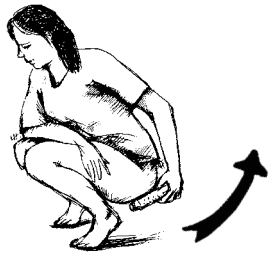
For an infection that is not getting better, or for a kidney infection

- give 500 mg amoxicillin ..... by mouth, 3 times a day for 7 days

If the woman is allergic to amoxicillin

- give 960 mg cotrimoxazole ..... by mouth, 2 times a day for 7 days
  (160 mg trimethoprim and 800 mg sulfamethoxazole)

But do not give cotrimoxazole in the last 3 months of pregnancy.



Prevent bladder infections

To prevent bladder infections, teach women how to keep germs in stool away from the urethra by wiping from front to back after urinating or passing stool. Remind women's partners to clean their hands and genitals before sex. Women should also urinate right after having sex.

Check the baby

Measure the mother's womb

HEALTHY SIGNS

- The size of the womb matches the due date.
- The womb grows about 2 finger widths every month.

WARNING SIGNS

- The size of the womb does not match the due date the first time you check.
- The womb grows more or less than 2 finger widths every month.

When you measure the womb, you check to see where the top of the womb is. This will show you 3 things:

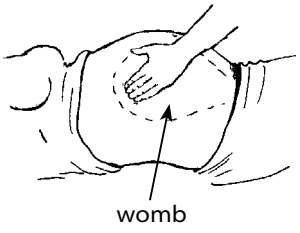
1. **How many months the woman is pregnant now.**
2. **The probable due date.** If you were able to figure out the due date from the mother's last monthly bleeding (see page 88), measuring the womb can help you see if this due date is probably correct. If you were unable to figure out her due date from her monthly bleeding, measuring the womb can help you figure out a probable due date. This should be done during the first checkup.
3. **How fast the baby is growing.** At each checkup, measure the womb to see if the baby is growing at a normal rate. If it is growing very fast or very slow, there may be a problem.

How to measure the womb

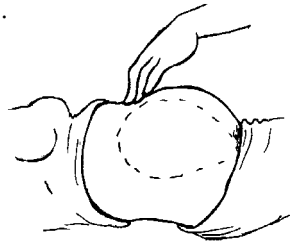
As the baby grows inside the womb, you can feel the womb grow bigger in the mother's belly. The top of the womb moves about 2 finger widths higher each month. At 3 months, the top of the womb is usually just above the mother's pubic bone (where her pubic hair begins). At about 5 months, the top of the womb is usually right at the mother's bellybutton. At 8½ to 9 months, the top of the womb is almost up to the mother's ribs. Babies may drop lower in the weeks just before birth.

To feel the womb, have the mother lie on her back with some support under her head and knees. Your touch should be firm but gentle.

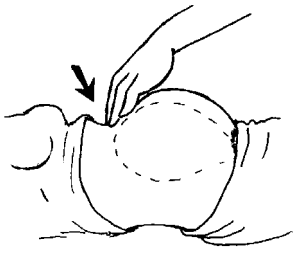
Find the top of the womb.



Walk your fingers up the side of the belly.



Find the top of the womb (it feels like a hard ball under the skin).

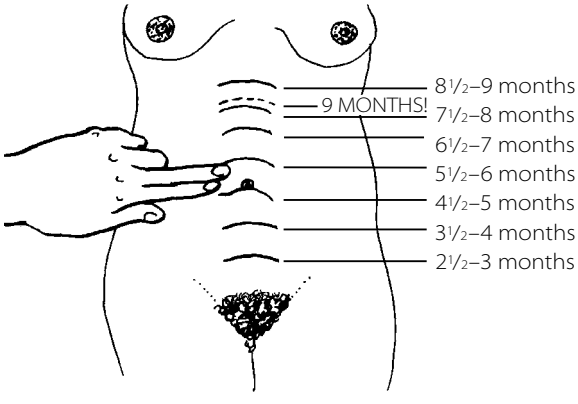


You can feel the top by curving into the belly.

To measure using the finger method

1. If the top of the womb is below the bellybutton, measure how many fingers below the bellybutton it is. If the top of the womb is above the bellybutton, measure how many fingers above the bellybutton it is.

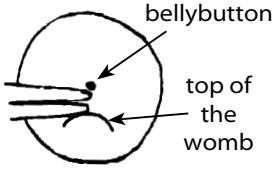
Then see how many months pregnant the woman is now by comparing the number of fingers with this picture (each line is about the width of 2 fingers).



2. Write down what you find, with a picture or with numbers.

To draw a picture: Make a circle for the mother's belly, a dot for her bellybutton, and a curved line for the top of the womb. Then draw the number of fingers the top of the womb is above or below the bellybutton. For example:

This drawing means that the top of the womb is 2 fingers **below** the bellybutton.



This woman is about 4½ months pregnant.

This drawing means that the top of the womb is 3 fingers **above** the bellybutton.

This woman is about 6½ months pregnant.

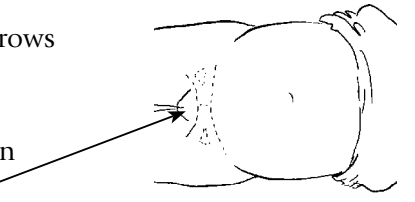
To use numbers: Write down the number of fingers you used to measure the womb. Put a "**+**" sign in front of the number if the top of the womb is above the bellybutton. Put a "**–**" sign in front of the number if the top of the womb is below the bellybutton. The example above on the left would be **–2**. The one on the right would be **+3**.

3. Figure out (or double check) the due date.

   For example, if measuring the top of the womb tells you that the woman is 7 months pregnant, you can expect that the baby will be born in about 2 months. If you have already figured out her due date using her last monthly bleeding, check to see if the 2 dates are about the same. If the 2 dates are not about the same, see page 133.

To measure using a soft tape measure

You can use this method when the womb grows as high as the woman's bellybutton.



1. Lay a cloth or paper measuring tape on the mother's belly, holding the **0** on the tape at the top of the pubic bone. Follow the curve of her womb up and hold the tape at the top of her womb.
2. Write down the number of centimeters from the top of the pubic bone to the top of the womb.
3. Doctors, nurses, and many midwives are taught to count pregnancy by weeks instead of months. They start counting at the first day of the last monthly bleeding, even though the woman probably got pregnant 2 weeks later. Counting this way makes most pregnancies 40 weeks long.

   During the second half of pregnancy, the womb measures close in centimeters to the number of weeks that the woman has been pregnant. For example, if it has been 24 weeks since her last monthly bleeding, the womb will usually measure 22 to 26 centimeters. The womb should grow about 1 centimeter every week, or 4 centimeters every month.

If the size of the womb is not what you expected

If you are measuring correctly and you do not find the top of the womb where you expect it, it could mean 3 different things:

- The due date you got by counting from the last monthly bleeding could be wrong.
- The womb could be growing too fast.
- The womb could be growing too slowly.

The due date you got by counting from the last monthly bleeding is wrong

There are several reasons why a due date figured from the last monthly bleeding could be wrong. Sometimes women do not remember the date of their last monthly bleeding correctly. Sometimes a woman misses her bleeding for another reason, and then gets pregnant later. This woman could really be less pregnant than you thought, so the womb is smaller than you expect. Or sometimes a woman has a little bleeding after she gets pregnant. If you assumed that was her regular monthly bleeding, this woman will be 1 or 2 months more pregnant than you thought. The womb will be bigger than you expect.

If the due date does not match the size of the womb at the first visit, make a note. Wait and measure the womb again in 2 to 4 weeks. If the womb grows about 1 to 2 finger widths a month or 1 centimeter a week, the due date that you got from feeling the top of the womb is probably correct. The due date you got by figuring from the last monthly bleeding was probably wrong.

Remember: Due dates are not exact. Women often give birth up to 2 or 3 weeks before or after their due date. This is perfectly safe.

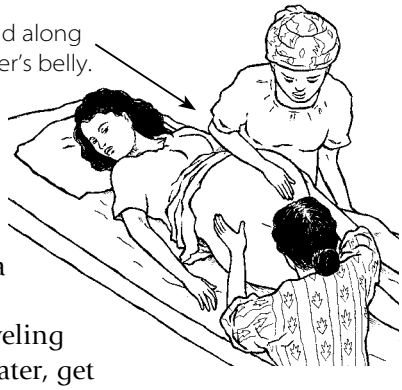
The womb is growing too quickly

If the womb grows more than 2 finger widths a month or more than 1 centimeter a week, several different causes are possible:

- The mother may have twins. See page 143 to learn how to tell if there are twins.
- The mother may have diabetes (see page 115).
- The mother may have too much water in the womb.
- The mother may have a molar pregnancy (a tumor instead of a baby).

Too much water in the womb

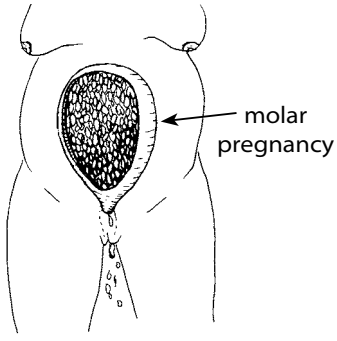
Too much water is not always a problem, but it can cause the womb to stretch too much. Then the womb cannot contract enough to push the baby out or to stop the bleeding after the birth. In rare cases it can mean that the baby will have birth defects. To see if the mother has too much water, try the thump test:


Have a helper put a hand along the middle of the mother's belly.
Put one of your hands on one side of the mother's belly. Thump the other side of her belly with your other hand.

If there is too much water inside, you may feel a wave or ripple cross the belly from one side to the other. (The helper's hand keeps the wave from traveling through the mother's skin.) If there is too much water, get medical advice. It may be safer for the mother to have the birth in a medical center.

Molar pregnancy (tumor)

Sometimes a woman gets pregnant, but a tumor grows instead of a baby. This is called a molar pregnancy.

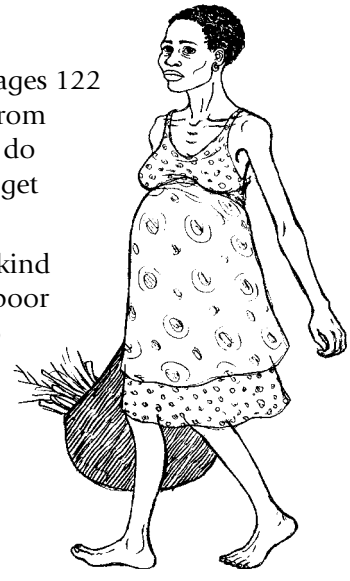


Other signs of a molar pregnancy are: no heartbeat can be heard, no baby can be felt, the mother has bad nausea all through pregnancy, and the mother has spotting of blood and tissue (sometimes shaped like grapes).

If you see signs of a molar pregnancy, get medical help as soon as possible. The tumor can become cancer and kill the woman — sometimes very fast. A doctor can remove the tumor to save the woman.

The womb is growing too slowly

Slow growth can be a sign of one of these problems:



- The mother may have high blood pressure (see pages 122 to 124). High blood pressure can keep the baby from getting the nutrition it needs to grow well. If you do not have equipment to check her blood pressure, get medical help.
- The mother may have a poor diet. Find out what kind of food the mother has been eating. If she is too poor to get enough good food, try to find some way to help her and her baby. Healthy mothers and children make the whole community stronger.
- The mother may have too little water in the womb. Sometimes there is less water than usual, and everything is still OK. At other times, too little water can mean the baby is not normal or will have problems during the labor. If you think the mother has too little water, get medical advice.
- The mother may be drinking alcohol, smoking, or using drugs. These can cause a baby to be small.
- The baby may be dead. Dead babies do not grow, so the womb stops getting bigger. If the mother is 5 months pregnant or more, ask if she has felt the baby move recently. If the baby has not moved for 2 days, something may be wrong.

  If the mother is more than 7 months pregnant, or if you heard the baby's heartbeat at an earlier visit, listen for the heartbeat again. If you cannot find it, get medical help. Some medical centers may have equipment to see if the baby is still alive.

If the baby has died, it is important for the mother to give birth soon. She can give birth at home, but she may bleed more than other mothers, and is at more risk for infection. If labor does not start in 2 weeks, go to a medical center where she can get medicine to start her labor.

Note: When a mother loses a baby, she needs love, care, and understanding. Make sure she does not go through labor alone. If she gives birth in the hospital, someone should stay there with her during the birth.

Find the position of the baby

HEALTHY SIGNS

- There is only 1 baby in the womb.
- The baby is head down at the time of birth.

WARNING SIGNS

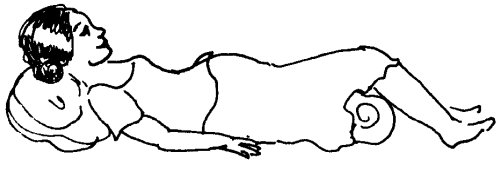
- The baby is breech (feet or bottom down) at the time of birth.
- The baby is sideways at the time of birth.
- The mother has twins.

There are 2 methods for finding the baby's position: feeling the mother's belly, and listening to where the baby's heartbeat is strongest. You may need both to be sure of the position of the baby.

Feeling the mother's belly

It may be difficult to find the position of the baby before the 6th or 7th month. Try anyway. What you feel may not make sense now but may make sense the next time you feel for the baby. It will be easier to find the position during the last 2 months of pregnancy. The more you practice feeling the position of a baby, the better you will be at it.

To begin, help the mother lie on her back and give her support under her knees and head. Make sure she is comfortable.



Then feel the mother's belly. You will be checking for 3 things:

- Is the baby vertical (up and down)?
- Is the baby facing front or back?
- Is the baby head down or bottom down?

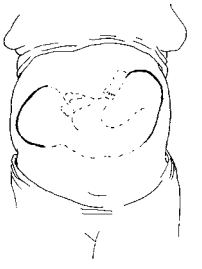
Is the baby vertical?

Most babies are vertical by the 7th month.

vertical:
head or bottom down

To find out if the baby is vertical, lay one hand flat on each side of the belly. Press in gently but firmly, first with one hand, and then with the other.

Check the shape carefully. Do the ends of the baby seem to be in the mother's sides? If so, the baby is probably lying sideways. Many babies lie sideways in the first months but most turn head down by 8 months or so. Babies cannot be born through the vagina from the sideways position. A baby that is sideways and cannot be turned when labor starts must be born by cesarean surgery in a hospital (see page 96). If the baby is sideways after 8 months, get medical help.



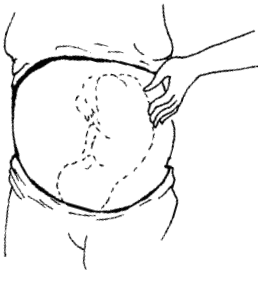
sideways:
head and bottom on the sides

It can be difficult to feel the position of the baby if the mother has very strong muscles on her belly, or if she has a lot of fat on her belly. If you have a hard time feeling the position, ask the mother to take a deep breath and let it out slowly, and to relax her body as you feel.

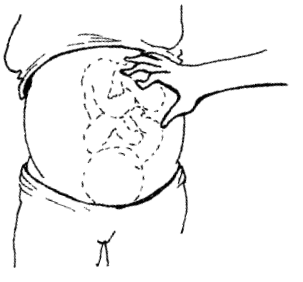
Is the baby facing the mother's front or her back?

Next, feel the mother's belly for a large, hard shape (the baby's back). If you cannot feel the baby's back, feel for a lot of small lumps.

A large, hard shape probably means the baby is facing the mother's back.

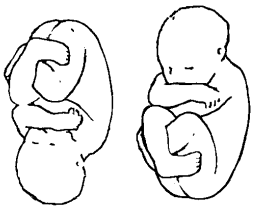


If you feel a lot of small lumps instead of a large hard shape, you are probably feeling the arms and legs. The baby is probably facing the mother's front.



If the baby is facing the mother's front, see page 190.

Is the baby head down or bottom down?



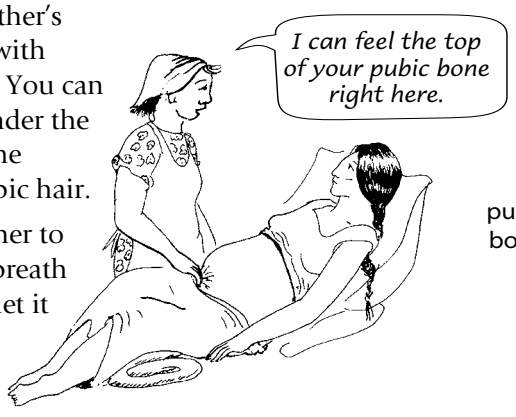
By the last month before birth, most babies are lying with their head toward the cervix. This is called a head-down position. The head-down position is easiest for childbirth.

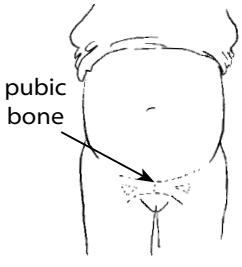
If a baby is head up, with her bottom toward the birth opening, this is called a breech position.

By the 7th or 8th month, the baby's head has usually moved down in the mother's pelvis. Here is how to feel for the baby's head:

1. Find the mother's pubic bone with your fingers. You can feel it just under the skin under the mother's pubic hair.

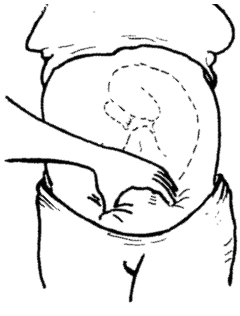
   Ask the mother to take a deep breath in and then let it out slowly.





As she breathes out, press deeply just above her pubic bone. Be gentle and stop if you hurt her.

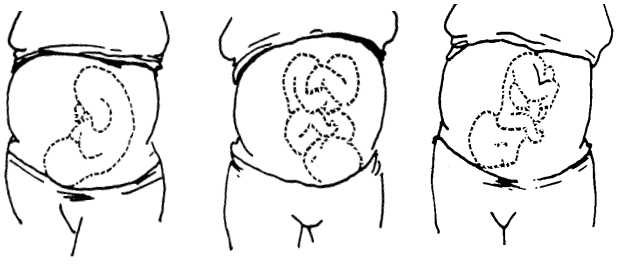
If you feel a round, hard object that you can move a little from side to side, it is probably the back or side of the baby's head.



If you do not feel anything in the mother's lower belly, the baby may be lying sideways.

If the shape is not clearly round, it may be the baby's face or the baby's bottom.

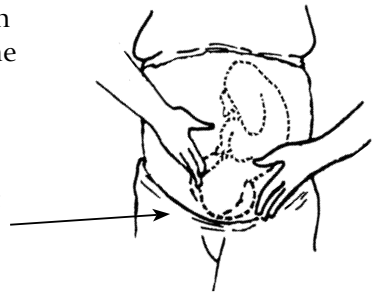
Or sometimes the baby's bottom is up, but the head is not straight down.



The head may be bent to the side, or the chin may be up. (These could be signs that the baby will not fit through the mother's pelvis at birth.)

2. If the lower part of the baby is not too deep in the mother's pelvis, try moving that part of the baby from side to side.

If moving the lower part of the baby makes its whole back move, then the baby may be breech. If the back does not move, then the baby may be head down.

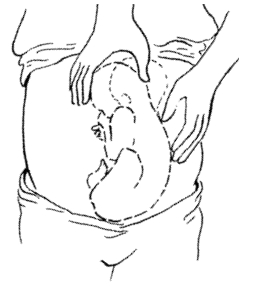


3. Now feel the top of the mother's womb. Does it feel round and hard, like a head? Or is it a different shape — like a bottom, a back, or legs? If the top of the womb feels more like a head than what you felt in the mother's lower belly, the baby may be breech.

4. Put one hand on the baby's back. At the same time, with your other hand, push the top end of the baby gently sideways.

If the whole back moves when you move the top end, the baby is probably in a head-down position.

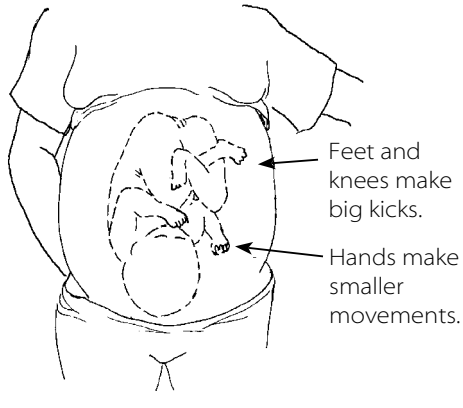
If the back stays where it is while you move the upper part of the baby, you may be moving the head (because the neck can bend, the back stays in place). If you are moving the head, the baby is breech.



Page 142 has more information on breech babies during pregnancy.
If the baby is breech at the time of birth, see page 215.

As you feel the mother's belly, try to imagine the different positions the baby might be in. Imagine where the baby's hands and legs might be. Imagine how each position would feel to the mother when the baby kicks.

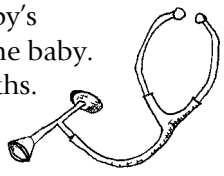
Then ask the mother where she feels the strongest kicks and where she feels smaller movements. Is this where you think the legs and hands probably are? If not, you may not have figured out the baby's position correctly.



When you check the baby's position, you might think you feel 2 heads or 2 bottoms. The mother may have twins. See page 143.

Listening to the baby's heartbeat

The baby's heartbeat gives information about the baby's position inside the mother and about the health of the baby. Listen to the heartbeat at each visit starting at 5 months.



fetoscope

1-ear fetoscope

By the last 2 months, you can often hear the baby's heartbeat in a quiet room by putting your ear on the mother's belly. The heartbeat will be easier to hear if you have a fetoscope or a stethoscope. You can make a simple fetoscope from wood, clay, or a hollow tube of bamboo (see page 445). Or you can buy a fetoscope.

2-ear fetoscope

stethoscope

1-ear fetoscope

The baby's heartbeat is quiet and quick. It may sound like a watch ticking under a pillow, only faster. The baby's heartbeat is about twice as fast as a healthy adult heartbeat — usually 120 to 160 beats a minute.

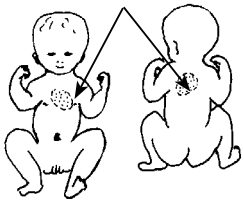
Note: If you hear a "swishy" sound (shee-oo shee-oo shee-oo), you are probably hearing the baby's pulse in the cord. Cord sounds tell you how fast the baby's heart is beating, but they do not help you find the baby's position.

If the heartbeat sounds slow, you are probably hearing the mother's pulse instead of the baby. Try listening to a different place on her belly.

Find the baby's heartbeat

Think about which way the baby seems to be lying. Then start listening for the heartbeat near the spot where you think the baby's heart should be. You may need to listen in many places before you find the spot where the heartbeat is the most loud and clear.

This is where the heartbeat is loudest:

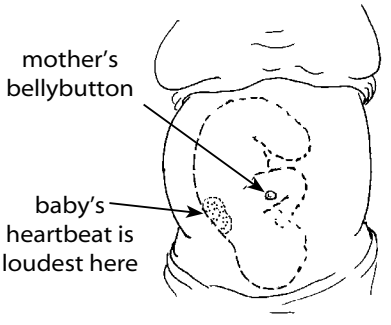


Find the baby's position by listening to the heartbeat

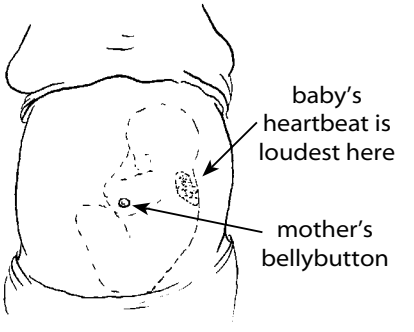
Is the heartbeat loudest above or below the mother's bellybutton?

If you hear the heartbeat loudest **below** the mother's bellybutton, the baby is probably head down.

If you hear the heartbeat loudest **above** the mother's bellybutton, the baby may be breech.

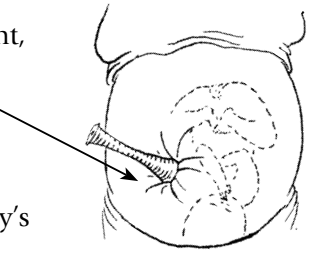


head down

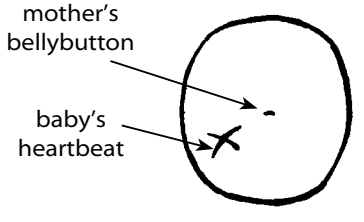


breech

Sometimes when the baby is facing the mother's front, the heartbeat is harder to find because the baby's arms and legs get in the way. Listen near the mother's sides, or directly in the middle of her belly to hear the heart.



If you can, keep a record of where you heard the baby's heartbeat by making a simple drawing.



In this picture, the dot in the middle is the mother's bellybutton, and the **X** shows where the heartbeat was found.

In this record, for example, the baby did not turn head down until 7 months. Even then the baby moved from side to side, so the **X** moves from the left side to the right side of the mother's belly and then back again. This kind of movement is normal.

a record of baby's position

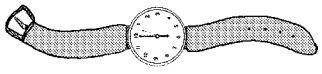
5 months	Sept. 13	
6 months	Oct. 12	
7 months	Nov. 15	head down
8 months	Dec. 10	head down
8 ½ months	Jan. 12	head down
9 months	Jan. 28	head down

Check how fast the baby's heart beats

HEALTHY SIGNS Baby's heartbeat is between 120 and 160 beats a minute.

WARNING SIGNS A baby whose heartbeat is slower than 120 or faster than 160 beats a minute may be having trouble. A baby whose heartbeat is slower than 100 or faster than 180 needs medical help.

Follow these steps to check how fast the baby's heart beats:



1. Use a clock or a watch with a second hand, as you would for checking the mother's pulse (see page 120). If you do not have a clock or watch, compare the baby's heartbeat to your own pulse when you are resting and calm. (Or make a timer out of homemade materials; see page 443.) The baby's heartbeat should be about 2 times as fast as your pulse.
2. Count the number of heartbeats in one minute. If you have trouble watching the clock and counting at the same time, have someone tell you when to start and stop counting.

   If the baby's heartbeat seems very slow, feel the mother's pulse in her wrist while you listen. If the mother's pulse and the heartbeat you hear are the same, you are hearing the mother's heartbeat by mistake.
3. Keep a record of where you found the heartbeat and how fast it beats.

If the baby's heartbeat is above 160, wait a few minutes and check it again. Sometimes the heartbeat is faster when the baby moves. If the heartbeat stays above 160 (especially if it is 180 or more) the mother may have an infection. Check if she has a fast pulse or a fever. If she does, see page 179.

If the baby's heartbeat is slow, the baby may be in danger. If the heartbeat is between 100 and 120 beats a minute, try moving the baby a little from the outside. The baby may be sleeping. Check if the heartbeat is faster when the baby is awake.

If the heartbeat is slower than 100 beats a minute, get medical help. The baby is in danger! At a hospital the woman may be able to get a cesarean surgery to help the baby to be born early.

Note: A **quiet** heartbeat does not mean that the baby is weak. It just means that the baby's chest or back is far from your ear, or that the mother's belly is hard to hear through. For example, the wall of the belly might be thick if the mother is fat.

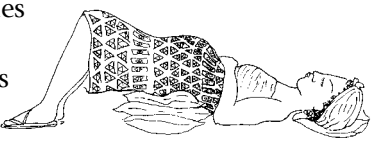
What to do if you find warning signs

Baby is breech

Breech babies are often born without any trouble, especially if the mother has had other children and her births were easy. But breech babies are more likely to get stuck or have other serious problems (see page 215).

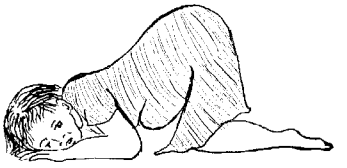
It may be possible to get the baby to turn. Try these methods:

- Lift the mother's hips. This lifts the baby out of the pelvis so he can turn around and put his head down. The mother lies on her back and puts something soft (like a pillow) under her hips for 15 minutes, 3 times every day. It is best to do this when the baby is moving a lot.



  After lying this way for 15 minutes, the mother should walk around for about 5 minutes. If she thinks she felt the baby turn, she should not lift her hips like this again until you have checked to see if the baby is still breech.

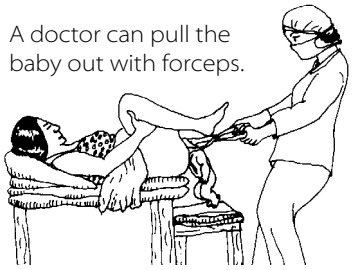
- Ask the mother to get on her knees with her head resting on the floor. This is another way to move the baby out of the pelvis so that he can turn.



- Try talking to the baby, shining a flashlight, or playing music low on the mother's belly, near her pubic bone. The baby may turn to be closer to the light or sounds.
- You may have plant medicines in your area that can help.

WARNING! **Only try massage to turn the baby if you have been taught how to do it safely and can get medical help.** Trying to turn the baby by pushing on the womb is very dangerous. See page 369.

Never turn a baby if the mother's waters have broken or if she has ever had vaginal bleeding, high blood pressure, surgery on her womb, or cesarean surgery.



A doctor can pull the baby out with forceps.

If the baby is not head down when labor starts, it is safer for the mother to give birth in a medical center or hospital. Doctors can use forceps (pulling tools) if the baby gets stuck. Or they can do a cesarean surgery.

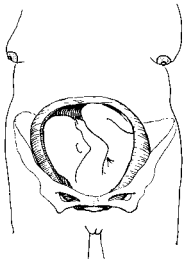
If a breech baby is going to be born at home, it is important for a very skilled midwife to be there (see page 215 for how to deliver a breech baby).

Remember, there are some times when breech birth is even more dangerous. Do not try to deliver a breech at home if:

- this is the mother's first baby.
- the mother has had long or difficult births in the past.
- the baby is big.
- the mother is weak or has been ill, so she cannot push well.
- the midwife is not very skilled or experienced with breech births.

Baby is sideways

If the baby is sideways — not head down or head up — by 8 months, you can try lifting the mother's hips. If the baby does not turn, you should make arrangements for a hospital birth by cesarean surgery.



This baby must be born by cesarean.

Sideways babies cannot fit through the mother's pelvis to be born. If you try to deliver the baby without surgery, the mother's womb will break during labor, and she and the baby will die without medical care.

If the baby turns head down at any time — even on the day the mother goes into labor — it is OK for the mother to give birth at home. But remember that turning a sideways baby by hand is just as dangerous as trying to turn a breech baby. (See page 369.)

Twins

It can be very difficult to know for sure that a mother is pregnant with twins.

Signs of twins:

- The womb grows faster or larger than normal.
- You can feel 2 heads or 2 bottoms when you feel the mother's belly.
- You can hear 2 heartbeats. This is not easy, but it may be possible in the last few months.

Here are 2 ways to try to hear the heartbeats of twins:

1. Find the heartbeat of 1 baby. Have a helper listen for other places where the heartbeat is easy to hear. If she hears a heartbeat, have her listen to one place while you listen to the other.

Each of you can tap the rhythm of the heartbeat with your hand. If the rhythms are the same, you may be listening to the same baby. If the rhythms are not exactly the same, you may be hearing 2 different babies.

2. If you do not have a helper but you have a watch with a second hand, or a homemade timer, try timing each heartbeat separately. If the heartbeats are not the same, you may be hearing 2 different babies.

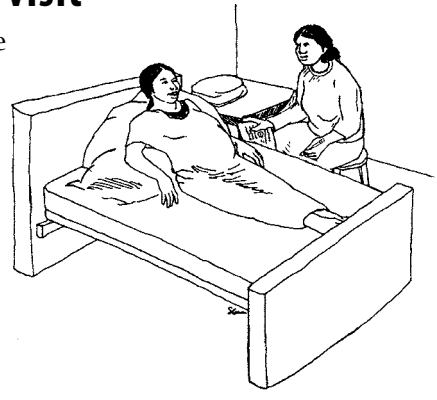
If you think there might be twins, even if you can find only one heartbeat, get medical help. At a medical center or hospital, someone can use a sonogram (see page 434) to see if there are twins.

Because twin births are often more difficult or dangerous than single births, they are safer in a medical center. Since twins are more likely to be born early, the mother should try to have transportation ready at all times after the 6th month. If the medical center is far away, the mother may wish to move closer in the last months of pregnancy. Be sure to have a plan for how to get help in an emergency (see page 106).

If the babies must be born at home, 2 very skilled midwives should attend the birth. Watch for labor starting too soon. See page 219 for more about twin births.

After the checkup

Make a time for the next prenatal visit



After you have finished checking the baby and the mother, find out if the woman has any more questions or needs to talk about anything else. If she has any warning signs, carefully explain what the warning sign is and what she must do to care for herself. If she needs to get medical help, be sure she knows where and when to go. Before you leave her, make a time for her next prenatal checkup. Make sure the mother knows when and where the next checkup will be.

Keeping health records

A health record can show you quickly what health issues each woman has, how things have changed for her, and remind you of any warning signs she has had. On the next page, there is a chart you can use to keep a record of prenatal checkups for each woman you help. Adapt this chart or make your own to meet the needs of your community.

Many midwives also make a "lifetime health record" on a folded card the woman keeps at home or brings to appointments. It is a quick way to keep a short record of her general health issues, details about pregnancies and births, vaccinations, pelvic exams, family planning methods, health education, or other details you may need.

Record of prenatal care

Name of mother: _____ Age: ____ Number of children: ____ Date of last childbirth: _____

Date of last monthly bleeding: _____ Probable due date: _____ Problems with other births: _____

date of visit	month of pregnancy	general health and minor problems	anemia	weight	temperature	pulse	blood pressure	signs of pre-eclampsia	protein in urine	other warning signs	size of womb	position of baby in womb	baby's heartbeat

Labor and birth

INTRODUCTION

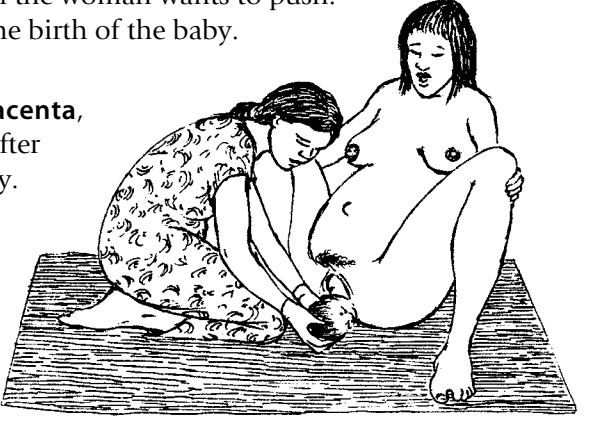
At the end of pregnancy, a woman's body begins the work of opening up and pushing the baby out into the world. This work is called labor.

Every labor is different. It can be long or short, very difficult or not. But each labor follows a basic pattern:

- Contractions (labor pains) open the cervix,
- the womb pushes the baby down through the vagina,
- the baby is born, and then
- the placenta (afterbirth) is born.

In this section of the book, we explain how to get ready for a birth, and some general ways to care for a woman during labor. Then we explain labor in 3 different parts, or stages.

- **Opening**, or Stage 1, begins when contractions start to open the cervix. It ends when the cervix is completely open. (See Chapter 11.)
- **Pushing**, or Stage 2, begins when the cervix is open. This is usually when the woman wants to push. Stage 2 ends after the birth of the baby. (See Chapter 12.)
- **The birth of the placenta**, or Stage 3, begins after the birth of the baby. It ends after the placenta is born. (See Chapter 13.)



Most babies are born without problems, but sometimes things go wrong, and the mother or the baby can be in serious danger. Before most problems happen, there are warning signs.

In this section of the book, we explain what warning signs to look for during labor so you can know if the birth is going well or if a problem might happen. We also explain how to treat some problems, and when to bring a woman to the hospital if she has a problem that cannot be helped at home. To ensure the health of women and babies during labor and birth, you, the woman, the family, and the community should plan before the birth what to do in an emergency (see page 106).

Remember: These are the most important warning signs that mean a woman in labor should get medical help:

- high fever (see page 179)
- high blood pressure (see page 180)
- labor goes on too long (see page 186)
- heavy bleeding (see page 224)

Chapter 9
Getting ready for labor and birth

In this chapter:

Signs that labor will start soon 149

When to go to the birth..... 151

What to bring to a birth..... 151

Sterilize your tools and wash up 153

Getting ready for labor and birth

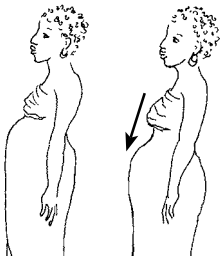
CHAPTER 9

Get ready for the birth as soon as the mother has signs that labor will start soon.

Signs that labor will start soon

There is no way to be sure when a woman's labor will begin, but there are some signs that it will start soon.

In the weeks before birth, the baby may drop lower, the mother may feel more contractions, or the mother may just feel different. Other signs may happen only a day or 2 before labor starts. The mother's stool may change, or a little show (bloody mucus) may come out of the vagina. Sometimes, the bag of waters breaks.



The baby drops lower in the belly

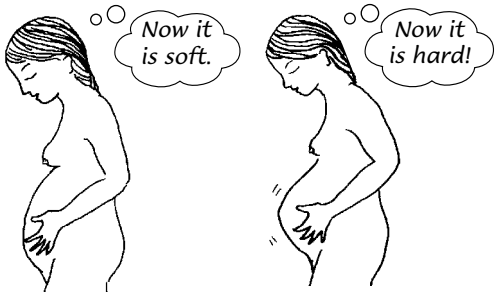
Babies often drop lower in the mother's belly about 2 weeks before birth. But if a mother has had babies before, this baby may not drop until labor begins.

Contractions get stronger or come more often

During labor the womb squeezes up and becomes hard. This is called a contraction because the womb contracts, or tightens.

To understand how contractions work, think about what happens when you wring water out of a thick cloth. It gets tight and hard.

The womb contracts in the same way during labor. You can see it bunch up, like this:



There are two kinds of contractions: practice contractions and labor contractions. **Practice contractions** happen throughout pregnancy. They are usually felt high in the belly (or all over the belly), and are mild and irregular. Many women do not even notice them. Practice contractions may start and stop several times. They will often go away if the mother changes what she is doing. For example, if the mother is walking when the practice contractions start, they may stop when she sits down.

Practice contractions may get stronger and start to come more often a few days before labor begins.

Labor contractions begin closer to the time the baby is born. They are usually felt lower in the belly or back and get much stronger than practice contractions. Labor contractions usually become more and more strong and can be very painful or intense.

The mother feels different

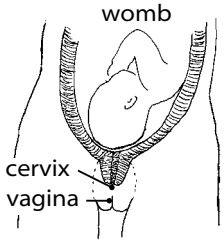
Sometimes a woman can feel that labor is near. She may feel dreamy, very quiet, and aware of her body. Or she may simply feel a strong urge to stay home and wait. All these feelings are normal.

Some women want to clean and rearrange their homes before labor starts. This desire is normal — but the woman should not work too hard. Her labor may start at any time, and she needs to save her strength. Her family can help her do chores and get rest.

Stool changes

Many mothers get loose stool (diarrhea) before they go into labor. This helps clean out the body so the woman will be more comfortable during labor and birth.

Show appears



During most of pregnancy, the tiny opening in the cervix is plugged with mucus.

In the last few days of pregnancy, the cervix may begin to open. Sometimes the mucus and a little bit of blood drip out of the cervix and out of the vagina. This is called show.

Show may come out all at once, like a plug, or it may leak slowly for several days. When you see show, you know that the cervix is softening, thinning, and beginning to open. Labor will probably start in a day or 2.

Be careful not to confuse show with the discharge (wetness from the vagina) that many women have in the 2 weeks before labor begins. That discharge is mostly clear mucus and is not tinged with blood.

The bag of waters breaks

When the bag of waters breaks, there can be a big gush of fluid or a slow leak. Most of the time, the bag of waters breaks during labor. When the bag breaks before labor, labor usually starts within a few hours.

If labor does not start within 6 hours after the bag breaks, there is a risk of infection. As more time goes by after the water breaks, the risk of infection gets stronger. You may choose to do something to get labor started (see page 191). If labor has not started in 24 hours (1 day and 1 night) after the water breaks, bring the woman to a medical center.

If medical help is very far away, you should start on your way there earlier.

When to go to the birth

You should go to the mother when any of these things happen:

- labor contractions begin
- the bag of waters breaks
- the mother feels she needs you

If you go to a birth and find the mother is in very early labor (and you live nearby), it is usually OK to go home for a while. Ask the mother to call for you when labor gets stronger. But before leaving, consider these questions:

- Is this a first baby? Labor is usually longer for a first baby.
- Were the woman's past births fast or slow? If a past birth was fast, she may have an even faster birth this time.
- How far away is medical help?

What to bring to a birth

Bring a helper

When you go to a labor, it is best to bring a helper. If there is an emergency, one person can take care of the baby while the other person helps the mother. Or one person can go for help while the other stays to take care of the problem.

If you do not have a helper, teach someone at the birth (the mother's husband, sister, mother-in-law, or friend) how to help during the birth.

Bring supplies

When you think a mother's labor is near, be sure you have all the supplies and tools you will need for the birth. The mother will probably have some of these supplies at her home. A midwife should bring the rest. It is a good idea for every midwife to assemble a kit with these tools and supplies.

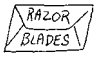
The most important supplies to have at a birth

If you can only get a few supplies, get these:

Clean water for drinking or washing

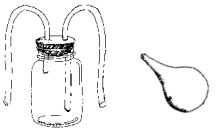
Soap and, if possible, some alcohol and a brush for cleaning hands and scrubbing fingernails

Sterilized string to tie the cord

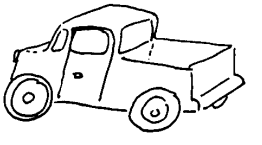


Sterilized razor blades or scissors to cut the cord

Clean gloves (or very clean plastic bags) to wear whenever you touch the mother's genitals, the baby, or any blood or stool

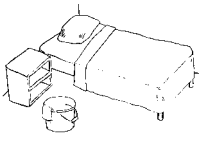


Mucus trap or suction bulb to suction the baby after the birth



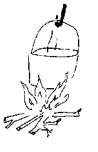
A way to get to a hospital in an emergency

Other things to make a birth easier



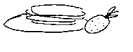
A clean place in which to give birth

Many very clean cloths or rags for the mother in labor and for the baby after the birth



Heat to boil water

Bowls for washing and for the placenta

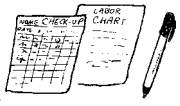


Food for the mother and the helpers

Loving people to help in labor

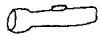
Other supplies that are very useful for the midwife to carry in her kit

Very clean apron and head cloth



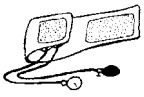
The mother's pregnancy record, a pen, and paper

A good birth manual

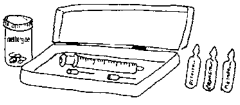

Flashlight

Watch with a second hand or timer

Stethoscope

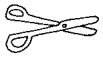

Blood pressure cuff

Packets of sterile gauze


Sterile syringe, needles, and emergency medicines

Supplies for making rehydration drink (see page 160) or premixed packets you can make yourself

2 sterilized clamps (hemostats) to clamp the cord or clamp bleeding veins if a woman tears


Sterilized blunt-tipped scissors to cut the cord before the baby is completely born (only in an emergency!)

Plant medicines that you know how to use

Thermometer

Fetoscope

Sterile needle and gut thread for sewing tears

HIV medicines for mother and baby if mother has HIV

Erythromycin or tetracycline ointment (or silver nitrate) for the baby's eyes

Measuring tape to measure the baby

Small scale to weigh the baby

Remember: All of these supplies are helpful, but if you do not have them, you can still be an excellent midwife. The most important things to bring to a birth are your wisdom, experience, and love.

Sterilize your tools and wash up

When you arrive at the birth, make sure all of your tools are sterilized (see page 59). All of the tools that go inside the vagina or cut the skin must be sterile. This includes gloves, razor or scissors for cutting the cord, and scissors for doing an episiotomy (cutting the birth opening).

Wash your hands often during labor, and be sure your nails are clipped short. Wear clean clothes too. A clean apron will keep blood and fluids off of you.

CHAPTER 10
Giving good care during labor and birth

In this chapter:

What happens during labor and birth 155

Opening 155
Pushing 156
The birth of the placenta 157
The first few hours 157

Care for the mother during labor 157

Support the labor 158
Guard the labor 158
Guide the labor 159

Be ready for emergencies 163

Watch for warning signs 163
Treat emergencies 164
Transport women to a medical center 164

Keep a record of what happens during labor 164

Labor chart 165

Giving good care during labor and birth

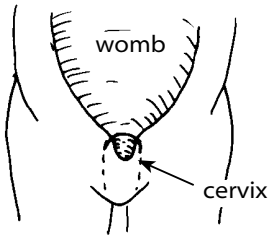
CHAPTER 10

What happens during labor and birth

In this chapter, we give general information about labor and birth, and explain some ways a midwife can support a woman all through the birth of her baby.

Labor is easier to explain in different parts, so in this book, we divide it into 3 stages — opening, pushing, and the birth of the placenta. This chapter has some information about these stages, and we talk more about each of them in separate chapters after this one.

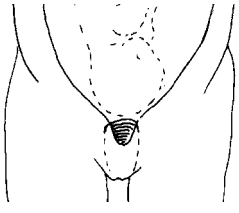
Opening



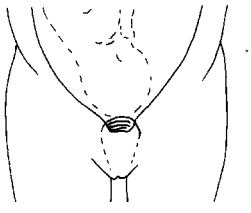
In the first stage of labor (opening) the cervix opens enough to let the baby out of the womb. For more information about stage 1, see Chapter 11, "Opening."

During pregnancy the cervix is long and firm, like a big toe. For most of the pregnancy, nothing can get in or out of the cervix, because the tiny opening in it is plugged with mucus.

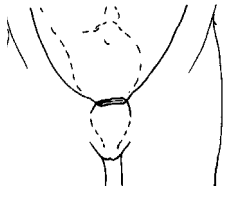
Near the end of pregnancy, practice contractions begin to shorten and soften the cervix. Even before labor starts, the cervix may open a little and the mucus plug may come out.



In pregnancy, the cervix is long, firm, and closed.



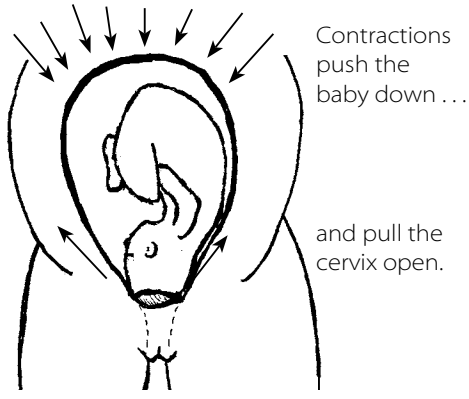
At the end of pregnancy, and in early labor, the cervix gets shorter and softer.



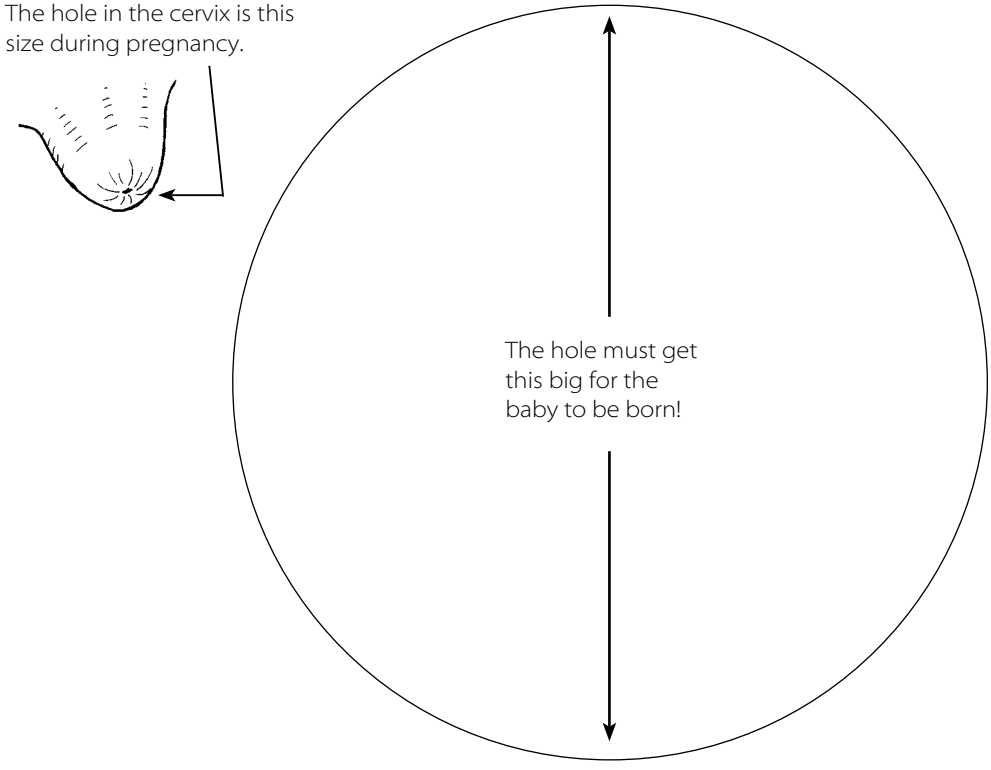
In labor, the cervix gets very short and soft, and opens.

Labor contractions push the baby down and pull the cervix open.

- Contractions push the baby's head down hard against the cervix. This helps to open the cervix, and moves the baby toward the opening of the vagina.
- Contractions slowly pull the cervix open. Each time the womb contracts, it pulls a little bit of the cervix up and open. Between contractions, the cervix relaxes. This continues until the cervix is completely open, and the baby can fit through the opening and be born.



A mother's contractions must get very strong to open the cervix completely. The tiny hole must open to about 10 centimeters (4 inches) across — wide enough for the baby to fit through.



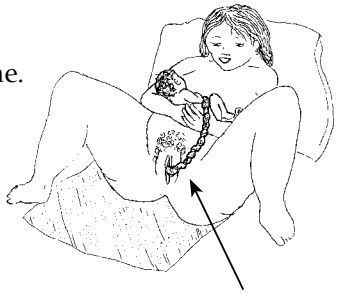
Pushing

After the cervix is open all the way, contractions move the baby out of the womb and down the vagina. The mother pushes to help move the baby out. This is called stage 2. For more about stage 2, see Chapter 12, "Pushing."

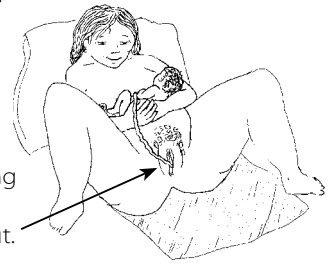
The birth of the placenta

Just after the baby is born (stage 3) she learns to breathe. The placenta separates from the womb and is pushed out of the vagina. For more about stage 3, see Chapter 13, "The birth of the placenta."

When the baby is first born, she is still connected to the placenta inside the mother by her cord. The blood from the placenta gives the baby a few minutes to start breathing. Soon the baby can breathe on her own and no longer needs the placenta.



Cord is thick, blue, and pulsing — it is still passing blood to the baby. Do not cut.



Cord is thin, white, and not pulsing — it is not sending blood to the baby. OK to cut.

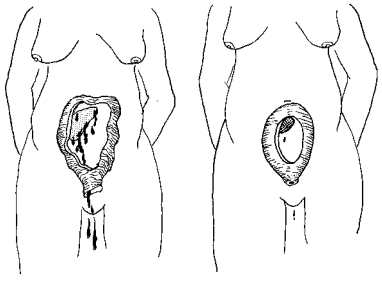
The placenta usually separates from the wall of the mother's womb in the first few minutes after birth. With a couple of pushes, the placenta will usually come out of the vagina and the baby must breathe on her own.

The first few hours

In the first few hours after the birth of the placenta, the mother starts to recover from the birth, and the baby begins to adjust to the outside world.

The place where the placenta was attached to the womb starts to tighten and close, and the mother's bleeding slows down. The mother's womb will become firm. She might feel strong contractions after the birth. These contractions are healthy, and help to stop the bleeding.

The baby should start to breastfeed. She should urinate, and may pass her first stool.



Care for the mother during labor

This part of the chapter explains the ways that a midwife can support, guard, and guide a birth to make it safer and easier. The ideas in this section are useful during all the stages of labor and birth.

The 3 chapters after this one will explain more specific ways to help in each stage of labor and birth.

Support the labor

When you support the mother's labor, you help her relax instead of fighting against it. Although labor support will not make labor painless, it can make labor easier, shorter, and safer.

Every woman needs a different kind of support. But all women need kindness, respect, and attention. Watch and listen to her to see how she is feeling. Encourage her, so she can feel strong and confident in labor. Help her relax and welcome her labor.

You do not have to work alone to support the mother. Labor support can help the most when it is given by the mother's husband, family, or friends. There is no rule about who should support the mother. It is only important that they care about the mother and are willing to help her. Most important, they should be people the mother wants to have at the birth.

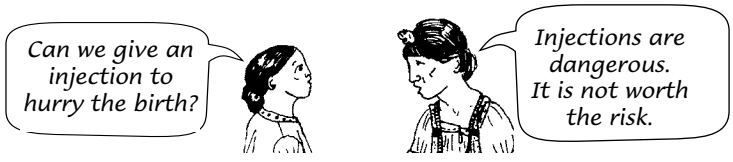
Guard the labor

When you guard the labor, you protect it from interference. Here are some examples:

Keep rude and unkind people away. The mother should not have to worry about family problems. Sometimes even supportive and loving friends can interfere with the labor. At some births, the best way to help is to ask everyone to leave the room so the mother can labor without being distracted.

Do not use unnecessary drugs or procedures. Some midwives (and doctors) believe that more drugs, tools, and exams will make the birth safer. But that is usually not true. They can make the birth harder or cause problems.

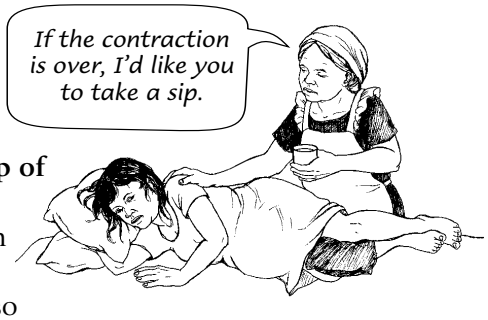
WARNING! **Do not give the mother drugs to hurry the labor** — they add useless risks. Injections or pills that are supposed to hurry the birth can make labor more painful, and can kill both the mother and the baby. See page 191 for ways to strengthen labor safely.



Guide the labor

When you guide the labor, you help the labor stay on a healthy path. You can guide the labor by helping the woman care for her body. At different points you might suggest that she drinks, urinates, rests, or moves. In the next 3 chapters, there will be many more suggestions about how to guide the labor to stay on a healthy path.

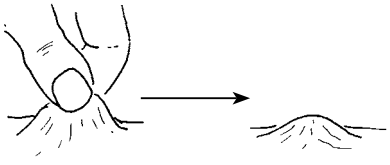
Help her drink at least 1 cup of liquid each hour



A woman in labor uses up the water in her body quickly. **She should drink at least 1 cup of liquid each hour.** If she does not drink enough, she may get dehydrated (not enough water in the body). This can make her labor much longer and harder. Dehydration can also make a woman feel exhausted.

Signs of dehydration:

- dry lips
- sunken eyes
- loss of stretchiness of the skin
- mild fever (up to 38°C or 100.4°F)
- fast, deep breathing (more than 20 breaths a minute)
- fast, weak pulse (more than 100 beats a minute)
- baby's heartbeat is faster than 160 beats a minute



Lift the skin on the back of her hand with 2 fingers. Then let go.

If the skin does not fall right back to normal, the woman is dehydrated.

If you think the mother may be dehydrated, immediately give her water with sugar or honey, fruit juice, or a rehydration drink (see next page).

Some women cannot drink much in labor. It makes them feel sick, or they vomit it up. If the mother is vomiting and cannot drink a whole cup of liquid at once, let her take small sips after every contraction. This way she will get liquid without upsetting her stomach. These liquids may be easier to drink for women who feel sick: coconut water, fruit juice mixed with water, water with sugar or honey in it, or peppermint, ginger, or chamomile tea with honey or sugar.

If the mother cannot drink at all, or if she is already very dehydrated, give her rectal fluids (see page 342) or IV fluids (see page 350).

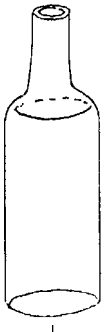
Rehydration drink

If the labor is long, or if the mother has not been eating or drinking much, give her rehydration drink. (In fact, any woman in labor can drink this.) This drink helps keep the chemicals in the mother's blood balanced so she does not get sick.

You may be able to get premixed packets of salts and sugar, such as *Oresal*, for making rehydration drink. If you use premixed packets, be careful to mix them correctly and taste the drink yourself first. It should be no saltier than tears.

You can also make the rehydration drink yourself at the labor, or carry the dry ingredients already measured and mixed in little packets.

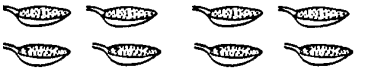
2 ways to make rehydration drink



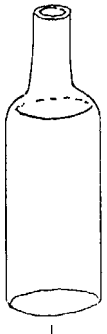
With sugar and salt

(Molasses or honey can be used instead of sugar.)
In 1 liter of clean **water**, mix:

- half a level teaspoon of **salt** .....with 8 level teaspoons of **sugar**



(Before you add the sugar, taste the drink to be sure it is no saltier than tears.)



With powdered cereal and salt

(Powdered rice is best. Or use finely ground maize, wheat flour, sorghum, or cooked and mashed potatoes.)
In 1 liter of clean **water**, mix:

- half a level teaspoon of **salt** .....with 8 heaping teaspoons (or 2 handfuls) of powdered **cereal**

(Before you add the cereal, taste the drink to be sure it is no saltier than tears.)

Boil for 5 to 7 minutes to form a watery porridge. Cool the drink quickly to give to the mother.

Taste the drink each time before you give it, to be sure it is not spoiled. Cereal drinks can spoil in a few hours in hot weather.

- If possible, add half of a cup of fruit juice, coconut water, or mashed ripe banana to either drink. This provides potassium, which may help the mother drink more liquid.

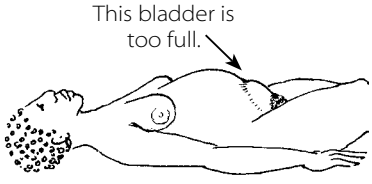
If you need to, change the drink to work in your area. If liter containers are not used, adjust quantities to local forms of measurement. If you do not have a measuring cup or spoons, use a pinch of salt and a small handful of sugar. If you have cereal gruel for young children, add enough water to make it liquid and a pinch of salt, and use that.

Note: If the mother feels hungry during labor, it is good for her to eat. Choose foods that are easy to digest, like bread, rice, or yogurt.

Have the woman urinate at least once every 2 hours

If the mother's bladder is full, her contractions may get weaker and her labor longer. A full bladder can also cause pain, problems with pushing out the placenta, and bleeding after childbirth. Remind the mother to urinate — she may not remember.

To check if the bladder is full, feel the mother's lower belly. A full bladder feels like a plastic bag full of water. When the bladder is very full, you can see the shape of it under the mother's skin. Do not wait until the bladder gets this big.



If the mother's bladder is full, she must urinate. If she cannot walk, try putting a pan or extra padding under her bottom and let her urinate where she is. It may help her to dip a hand in warm water.

If the mother cannot urinate at all, she needs to have a catheter (a sterile tube) inserted into her bladder to let the urine out. See page 352 for more on how to insert a catheter. If you have not been trained to insert a catheter, get medical help.

Rest between contractions

To save her strength, the mother should rest between contractions, even when labor first begins. This means that when she is not having a contraction, she should let her body relax, take deep breaths, and sometimes sit or lie down. In early labor she may be able to sleep.

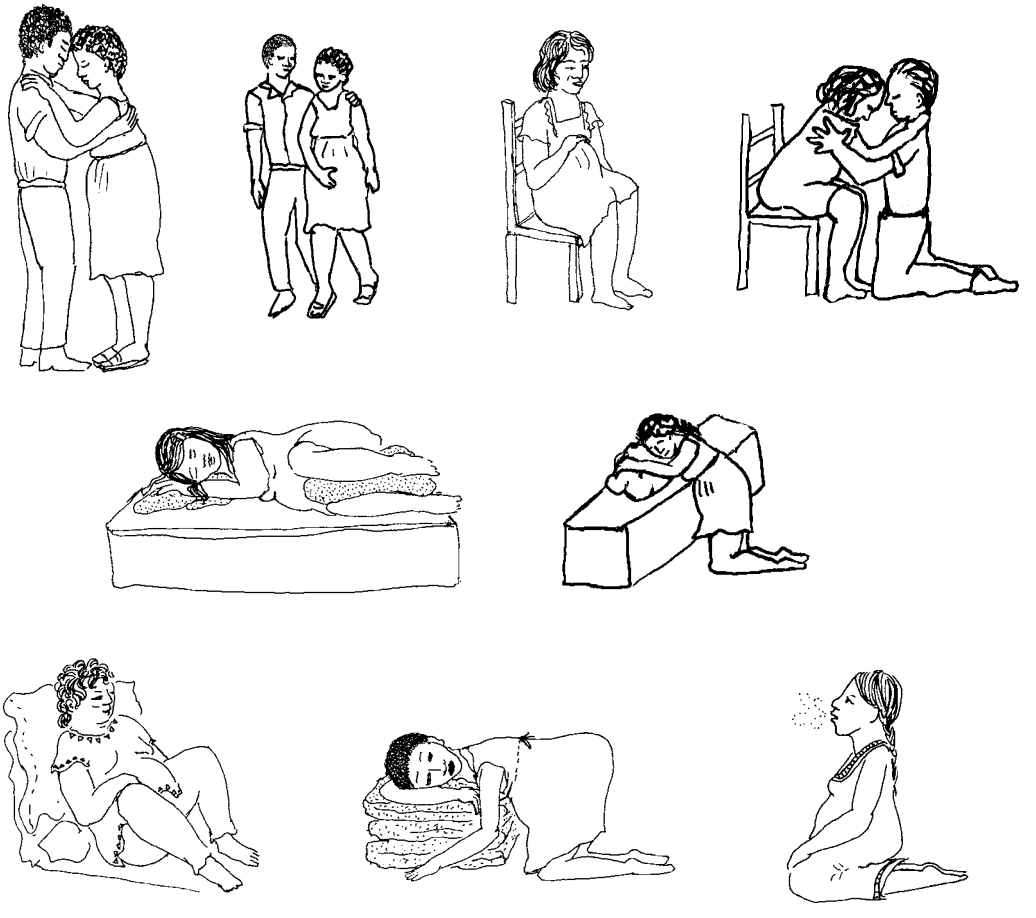
Many women feel very tired when their contractions are strong. They may fear they will not have the strength to push the baby out. But feeling tired is the body's way of making the mother rest and relax. If everything is well, she will have the strength to give birth when the time comes. For ways to help the mother relax, see page 169.

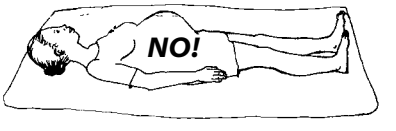
I have to sit up for the contractions — or they hurt too much.
I'm so tired! But every time I start to fall asleep my head falls forward and wakes me up!
I will hold your head up so you can sleep between contractions.
Thank you!

Change position every hour

Help the woman move during labor. She can squat, sit, kneel, or take other positions. All these positions are good. Changing positions helps the cervix open more evenly.

Standing and walking can make labor go faster. Swaying, rocking, or even dancing can help her body to relax.





The mother should NOT lie flat on her back. This squeezes shut the vessels that bring blood to the baby and mother.

It is OK for her to lie on her side with a pad between her legs (see pictures above), or on her back with her upper body propped up — as long as she changes position at least every hour.

Change bedding under the mother when it gets wet or soiled

Most women leak a lot of fluid from the vagina all through labor. This fluid may be show (see page 150), or it may be broken waters.

When the mother lies down or sits, put clean cloths or pads under her to catch the fluid.

Change cloths and pads when they get very wet or messy. Check the fluid for too much fresh blood or blood clots (see page 183), or brown, yellow, or green waters (see page 174).

If the mother has HIV

Giving ART medicines to the mother during labor and birth can prevent the baby from becoming infected with HIV (see page 495).

Be ready for emergencies

Most pregnancies and births are healthy. Using the information in the following chapters, you can prevent many problems. But any woman, no matter how healthy she is, can have serious problems.

Midwives help prevent health problems in three ways:

1. Midwives **watch** for warning signs — symptoms that show a woman may be developing a problem.
2. Midwives **treat** emergencies when they can.
3. Midwives **transport** women with serious warning signs or health problems to a doctor or medical center.

Watch for warning signs

The following chapters on labor and birth list many warning signs. Most warning signs tell you to watch closely and wait to see what happens. Some warning signs may go away. Other signs are very serious. If a woman has a very serious warning sign, or if her warning signs do not go away, she should get help right away.

You may know of warning signs that are not in this book. Think about the health problems that affect pregnant women in your community. Do women usually have signs before they get these problems?

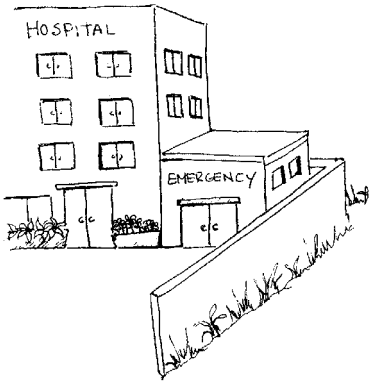
Sometimes midwives do not see a sign that something is wrong, but they just have a feeling there might be a problem. If you have this feeling, ask for help from other midwives, health workers, or doctors. They may see the problem that you did not.

Treat emergencies

This book explains some ways to act quickly and treat bleeding, shock, and other emergencies. Make sure you are trained and ready to help with as many of these emergencies as possible.

Transport women to a medical center

There are some problems during birth that midwives cannot help with at home or in a small clinic. If a mother has very heavy bleeding, pre-eclampsia, very long labor, high fever, or other serious problems, a midwife may not be able to save her life. At these times, the mother is in serious danger, and the midwife must help her get to a medical center immediately.



A woman or baby having a serious problem needs a well-equipped medical center with tools, medicines, and experienced health workers. Even if you treat a woman with a serious problem at home, it is a good idea to get medical help to be sure she is OK.

Before the birth, help each mother and her family make a plan for how to get to a medical center. See page 106 for some ideas. Know where the closest hospital is. Make sure there is transportation (like a truck and someone to drive it) and money to pay for fuel and services. (If she does not have money, you should still get medical help in an emergency.) See Chapter 24 for more on how to work with hospitals and health workers.

Keep a record of what happens during labor

If you can, write down everything that happens during the labor and birth. Write how often the mother eats, drinks, and urinates. Write down her pulse, temperature, and blood pressure whenever you check it. This record will help you see if the labor is going normally. If you have to bring the woman to a medical center, it will help the doctors understand what happened and why. If you have charts for all of the women you help, you can look them over and find out what made most women's labors easier or harder and whether they had early signs of problems.

Labor chart

Name of mother: _____ Due date: _____

Date labor started: _____ Time waters broke: _____

date	time	blood pressure (every hour)	pulse (every 4 hours)	temperature (every 4 hours)	baby's position (at least 1 time)	baby's heartbeat (every hour)	cervix dilation	contractions

CHAPTER 11
Opening: stage 1 of labor

In this chapter:

What happens during stage 1 of labor 167
Labor patterns in stage 1 168

When you first arrive 168

Supporting the mother in stage 1 169
Touch 169
Sounds 169
Breathing 170

Signs for the midwife to check in stage 1 170
The baby's position 170
The baby's heartbeat 172
The bag of waters 174
The mother's pulse 178
The mother's temperature 178
The mother's blood pressure 180
Bleeding during labor 183
Pain in the womb 183
Watch for signs of progress 185
Labor is too long 186
Safe ways to encourage labor 191

Opening: stage 1 of labor

CHAPTER 11

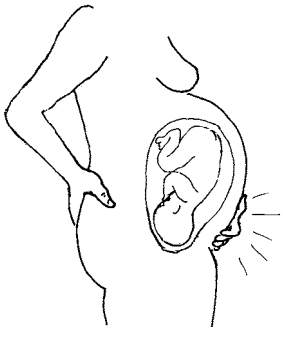
Stage 1 of labor (also called dilation) begins when contractions start to open the cervix. It ends when the cervix is completely open. Stage 1 is usually the longest part of labor, but it lasts a different amount of time at each birth. Stage 1 could be less than an hour or it could be a day and a night or more.

What happens during stage 1 of labor

Stage 1 has 3 parts: light labor, active labor, and late labor.

In **light labor**, the contractions are usually mild and short (about 30 seconds long) and come every 15 or 20 minutes. They are felt low in the belly or back. The contractions may hurt a little, like the cramps of monthly bleeding or mild diarrhea. Or they may not be painful at all — they may feel more like pressure or tightening. The mother can usually walk, talk, and work during these contractions.

As labor continues, contractions get longer, stronger, and closer together. They usually start coming 3 to 5 minutes apart. This is called **active labor**. For most women, the labor will become very intense. The mother will usually need to stop everything and pay full attention during a contraction. She may feel tired and need to rest between contractions.



In **late labor**, the contractions may last up to 1½ minutes, with only 2 or 3 minutes between them. Sometimes the mother feels that the contractions never stop. But if you put your hand on her belly, you can feel the womb get soft and then hard again.

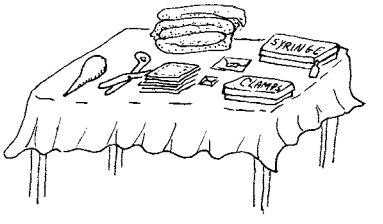
Labor patterns in stage 1

Labors can follow many different patterns:

- Some labors start with weak contractions and get strong slowly and steadily over several hours.
- Some labors start slowly and suddenly speed up.
- Some labors start strong, then get weaker or even seem to stop, and then become strong again.
- Some labors follow other patterns.

All these labors are OK as long as they get strong enough to open the cervix completely.

When you first arrive



When you arrive at a birth ask the mother how she is feeling. Make sure the birth area is clean and arrange your supplies. All the tools for the birth, and anything that will cut the skin, should be sterilized.

Talk to the woman and her family to be sure they can still get to medical help in an emergency.

Wash your hands well for 3 minutes (see page 53) and ask anyone who may touch your tools, the mother's genitals, or the baby to wash their hands in the same way.

Note: Clean hands do not stay clean for long. If you touch anything other than the mother's genitals, you must wash again.

The mother should bathe too. If possible, she should wash her genitals, hands, and body at the beginning of labor.

Wash your hands and change your gloves after touching stool or anything else.

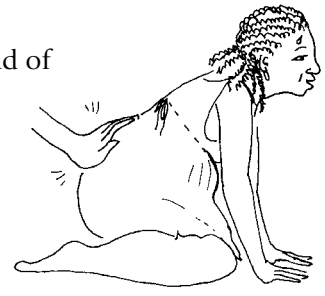
Talk to the woman and her family about what may happen during labor, and answer any questions they have. Choose a family member who can help in an emergency, and explain to that person what kind of help you might need.

Helping the mother relax in stage 1

Labor can be more difficult when the woman is afraid or tense. Fear is common in labor, especially for first-time mothers. Reassuring the woman that the pain she has is normal can help lessen that fear. Sometimes the most helpful thing to do is to help a woman relax her body.

Touch

Touch can help a woman in labor, but find out what kind of touch she wants. Here are some examples of touch that many women like:



- A firm, still hand pressing on the lower back during contractions.

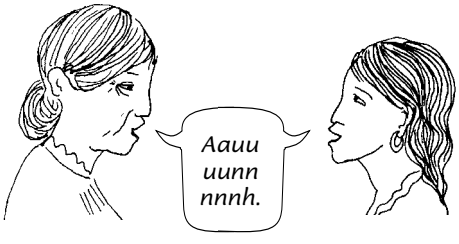
- Massage between contractions, especially on the feet or back. (Do not massage the belly. It will not speed labor and can cause the placenta to separate.)

- Hot or cold cloths on the lower back or belly. If the mother is sweating, a cool wet cloth on the forehead usually feels good.

Sounds

Making sounds in labor can help women to open. Not all women want to make noise, but encourage women to try.

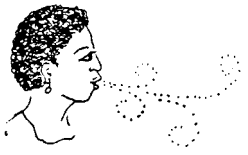
Low sounds, like growling animal noises or humming can be very helpful. Some women chant or sing. The woman can be as loud as she wants to be.



Some noises can make women feel more tense. High-pitched sounds and screams usually do not help. If she starts to make high, tense sounds, ask her to make low sounds. You can make low sounds yourself to guide her.

Breathing

The way a woman breathes can have a strong effect on how her labor will feel. In the first stage of labor, there are many kinds of breathing that may make labor easier. Try these ways of breathing yourself.



Slow, gentle breathing: Ask the woman to take a long, slow breath. To breathe out she should make a kiss with her lips and slowly blow. Breathing in through the nose can help her breathe slowly.

Hee breathing: The woman takes a slow deep breath and then blows out short, quick breaths while she makes soft "hee, hee" sounds.

Panting: The woman takes quick, shallow breaths.

Strong blowing: The woman blows hard and fast.

Encourage mothers to try different ways of breathing throughout labor.

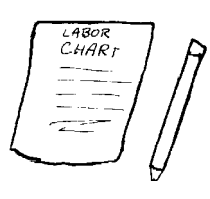
Signs for the midwife to check in stage 1

When you first arrive at a labor, or when the mother comes to you, you should check her and the baby thoroughly for both healthy and warning signs. Some signs, such as the position of the baby, usually only need to be checked once. Other signs must be checked more than once — and some more often than others.

If you know how to do vaginal exams, it may be tempting to do them to find out how far along labor is. But remember that each time you put your fingers (or anything) inside the woman you add to her risk of infection. Try to use other ways to know how far along labor is.

Signs to check during stage 1

- baby's position.....when you first see the mother in labor
- baby's heartbeat.....every hour
- mother's pulse.....every 4 hours
- mother's temperature.....every 4 hours
- mother's blood pressure.....every hour



Check all these signs more often if there are warning signs. If you can, write down what you find each time you check.

The baby's position

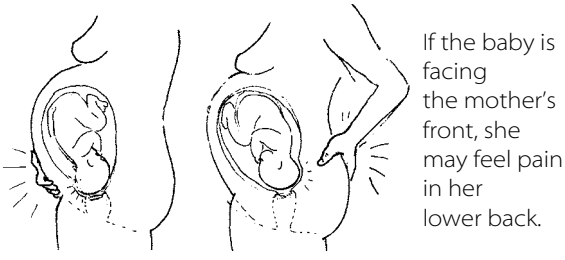
It is wise to check the baby's position early on in labor (see page 135 to learn how). Checking the baby's position can tell you:

- if the baby is lying head down, and which way he faces.
- if the baby is moving down through the mother's pelvis.

Is the baby lying head down? Which way does he face?

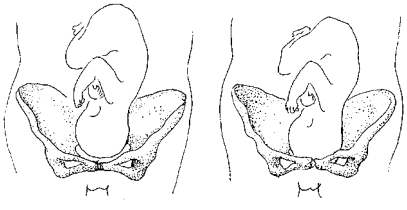
Most babies lie with their heads down, facing the mother's back or side. This is the best position for the baby, because the back of the baby's head presses on the cervix and helps labor get stronger.

If the baby is head down but faces the mother's belly, the labor may be longer. But babies in this position can usually be born without problems.


If the baby is facing the mother's side or back, the pain is usually felt in the front.
If the baby is facing the mother's front, she may feel pain in her lower back.

If the baby is not head down, see pages 190 and 191.

Is the baby moving down through the mother's pelvis?



The baby rests above the mother's pelvis during most of pregnancy. In late pregnancy or early labor, the baby's head usually starts to move down through the mother's pelvis. When this happens, we say the head is engaged. Engagement is a good sign, because it usually means the baby will fit through the pelvis.

Check if the baby is engaged in the mother's pelvis or if he is still high in the mother's belly:

1. Find the mother's pubic bone (just below her hair line).

2. Find the baby's head. If it begins to curve above the pubic bone, it is not engaged.

3. If the sides of the baby's head go straight down and you cannot feel where it curves, it is probably engaged.

If the woman is in active labor and the head stays high, the mother's pelvis may be small or the baby's head may be in a bad position. Watch for signs of progress, especially if it is a first baby and the head is not engaged (see page 189 for reasons a baby may not fit through the pelvis). If the waters break while the head is high, the cord may be washed down in front of the baby's head (a prolapsed cord, see page 176). This is very dangerous for the baby.

The baby's heartbeat

Listen to the baby's heartbeat about 1 time every hour during labor, or more often if there is a problem. See page 139 to learn how to check the baby's heartbeat.

The best time to listen to the baby's heartbeat is soon after a contraction stops. Listening to the baby's heartbeat can tell you about his position and health.

Note: If you cannot hear the baby's heartbeat during a contraction, it usually does not mean the heart has stopped. It just means the wall of the womb is thicker during the contraction and hard to hear through, or that the contraction is moving the baby away from your ear. If you can hear the baby's heartbeat immediately after a contraction and it is normal, it was probably normal during the contraction too.

The baby's position

Finding the place where the heartbeat is loudest can help you know if the baby is head down, breech (bottom down), or sideways. See page 135.

The baby's health

HEALTHY SIGNS Most babies' hearts beat between 120 and 160 times a minute during labor. The heart may speed up or slow down. At times, the heart may be as fast as 180 beats a minute or as slow as 100 beats a minute. If a baby's heart beats faster than 180 times a minute or slower than 100 beats a minute, it should quickly come back to normal at the end of a contraction or with a change in the mother's position.

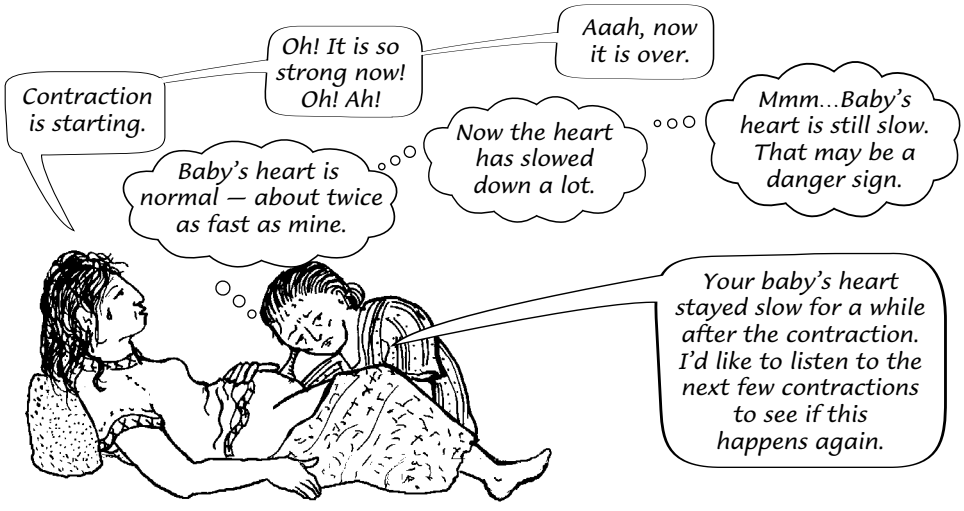
WARNING SIGNS Baby's heartbeat is slower than 100 beats a minute or faster than 180 beats a minute.

Slow baby heartbeat — slower than 100 beats a minute, or slower than 120 beats a minute for several minutes

These things can cause the baby's heartbeat to drop below 100 beats a minute:

- Cord is very short or is being pinched.
- The baby is not healthy.
- There is not enough amniotic water.
- Placenta does not work well, usually because the mother has high blood pressure or the baby is late.
- Placenta is separating from the womb.
- Contractions are too strong. (This is rare for a normal labor. But too-strong contractions can easily happen to a woman who is given medicines to strengthen labor.)

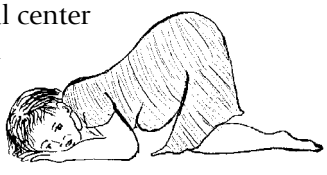
If you notice that the baby's heartbeat is slow after a contraction is over but then goes back to normal, the baby may be having trouble. Listen to several contractions in a row. If the heartbeat is normal after most other contractions have ended, the baby is probably OK. Ask the mother to change position to take pressure off the cord. Listen again after she moves to see if this helps, and keep checking the baby's heartbeat often during the rest of labor to see if it slows down again.


Contraction is starting.
Oh! It is so strong now! Oh! Ah!
Aaah, now it is over.
Baby's heart is normal — about twice as fast as mine.
Now the heart has slowed down a lot.
Mmm…Baby's heart is still slow. That may be a danger sign.
Your baby's heart stayed slow for a while after the contraction. I'd like to listen to the next few contractions to see if this happens again.

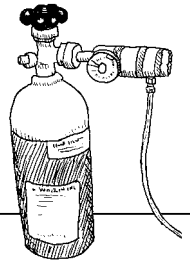
If the baby's heartbeat is slower than 100 beats a minute and stays slow until the next contraction or almost to the next contraction, the baby is in danger. This is especially true if there are other warning signs, like green waters or a long labor. The baby could be very weak at birth or have brain damage.

You must think about how far you are from a medical center and decide how soon you think the mother will give birth. If the birth is near and the mother is ready to push, it may be better to stay home and deliver the baby quickly.

Otherwise, take the mother to a medical center for help. Have her get in the knee-chest position, with her head on the floor and her hips up. This can help bring more blood and oxygen to the baby.



If you can, it may help to give the mother oxygen.



- give 6 liters (L) oxygen each minute

Fast baby heartbeat — faster than 180 beats a minute

These things can make the baby's heartbeat speed up to more than 180 beats a minute:

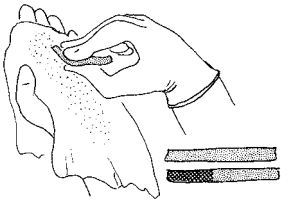
- The mother is dehydrated (see page 159).
- The mother or baby has an infection (see page 179).
- The mother is bleeding (see page 183).
- The mother has been in labor for too long (see page 186).
- The mother's womb is tearing (see page 184).

If the baby's heartbeat stays fast for 20 minutes (or 5 contractions), get medical help.

The bag of waters

The bag of waters usually breaks late in stage 1. But it may break at any time — before labor starts or not until the baby is born. Sometimes the waters break with a great gush. Sometimes they just leak a little.

When you arrive at the birth place, ask the mother if her waters have broken. If she is not sure, check to see if her genitals and underclothes are wet. Since this wetness could be waters or urine, smell the pad to see if it smells like urine.



If the paper turns blue or purple, the wetness is waters.

Or, if you have nitrazine papers, put the paper into the wetness. If the paper stays orange, the wetness is urine. If it turns blue or purple, the wetness is probably waters. (Waters and urine can be mixed together. If the paper stays orange or the liquid smells like urine, but you still think the waters have broken, wait and test again later.)

Listen to the baby's heartbeat right after the waters break. If the baby's heartbeat drops below 100 beats a minute, get medical help.

Check the color of the waters

When the waters break, they should be clear or a little pink. It is also OK if there are white dots in the waters. But yellow or green waters are a warning sign. They mean the baby has probably passed stool inside the womb. Sometimes the waters have clumps of stool that you can see.

Stools begin to form in the baby's body during pregnancy, but the baby does not usually pass stool until after birth. A baby's first stool is tarry and sticky. It is called meconium.

Stool in the waters may be a sign that the baby is having problems. There is also a danger that the stool can get in the baby's mouth and nose. When the baby begins to breathe, the sticky stool can get into his lungs. It can be hard for him to get enough air, and sometimes causes a lung infection, brain damage, or death.

What to do

Look at the waters. If they are a very light yellow or green and there are no other warning signs, the stool is old, and the baby is probably OK. Listen to the baby's heartbeat throughout the labor and watch for other warning signs.

If the waters are darker, thick, or have lumps of meconium in them, get medical help. A medical center should have tools to clear the baby's mouth and lungs when he is born, and can treat him if there is a problem with his lungs.

If you cannot get medical help, be prepared to help the baby breathe after the birth (see page 241).

Note: If the baby is breech, it is normal for him to pass stool while he is being born. This stool will not usually cause problems.

Think about how long the waters have been broken

Once the bag of waters breaks, germs can move quickly into the womb. To avoid infection, the baby should be born within one day and one night (24 hours) after the waters break. This means that labor should start within 12 hours after the waters break.

While waiting for labor, help the mother keep germs out of her vagina:

- Do not do vaginal exams.
- Do not put anything into the mother's vagina.
- Make sure the mother does not sit in water to bathe.
- Make sure the mother does not have sex or put anything in her vagina.
- Ask the mother to clean her genitals from front to back after urinating or passing stool.
- Regularly change the woman's underclothes or the bedding she is lying on.

You can try a home method to help labor start or get stronger (see page 191). **Do not give the mother medicines like oxytocin or misoprostol at home to start labor.** These medicines should only be used in a medical center.

When to get medical help

Get help quickly if labor has not started in 8 to 12 hours, or if it starts but stays weak **and** any of the following are true:

- The baby is early (less than 8 months).
- There are signs of infection.
- The woman is at risk of having a sexually transmitted infection (see Chapter 18) or she recently had a bladder or vaginal infection.
- The mother has put something in her vagina since her waters broke.

You might want to go to a medical center or hospital even if there are no warning signs. At a medical center, medicines can be given to safely start the labor.

Think about the time it takes to get to the medical center. For example, if the medical center is 4 hours away and labor has not started 8 hours after the water broke, you should start on your way to the medical center. If the medical center is more than a day away, give the mother antibiotics to prevent infection (see page 179) and start on your way there right away.

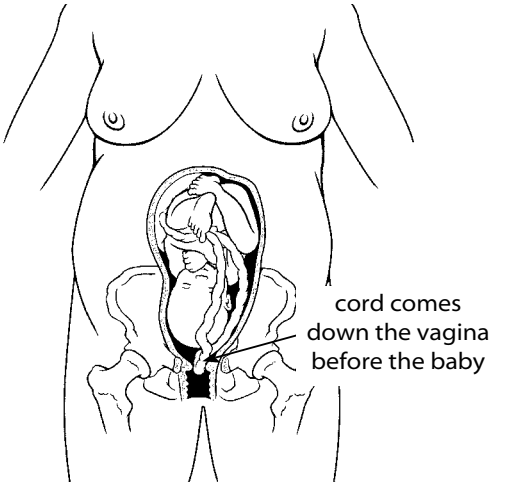
If you decide to stay at home

Give the mother antibiotics to prevent infection and watch her closely for signs of infection. If you have a thermometer, take her temperature every 4 hours. If any signs of infection develop, get medical help. See page 179 for more on infection in labor and how to treat it.

Watch for the cord coming down in front of the baby (prolapsed cord)

Rarely, when the bag of waters breaks, the cord comes down the vagina in front of the baby's head. The cord is more likely to slip past the baby's head if:

- there is a lot of water.
- the baby is small or less than 8 months.
- the baby is in a difficult position.
- the baby was high in the pelvis when the water broke.

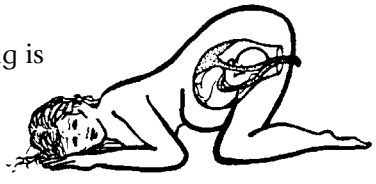


If the cord gets caught in front of the baby's head, or on the side of his head, it can be squeezed between the head and the mother's bones. This makes it hard for blood to get through the cord and bring oxygen to the baby. The baby can have brain damage or die.

WARNING SIGNS

- The cord comes out of the vagina.
- The baby's heartbeat suddenly slows — especially right after the waters break — and does not return to normal.
- The baby's heartbeat gets very slow (fewer than 100 beats a minute) during each contraction.

What to do

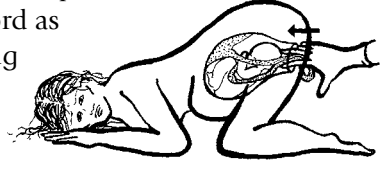


If the baby is alive, you must act fast. The best thing is usually to keep the head off the cord and get the mother to a hospital for a cesarean surgery as soon as possible.

If you cannot see the cord, wash your hands well and put on very clean gloves. Then feel inside the vagina for a cord in front of the baby's head. Touch the cord gently to feel for a pulse.

If you can see the cord coming out of the vagina, touch it gently to feel for a pulse.

If the cord has a pulse, the baby may survive, but only if you get medical help right away. The mother will need a cesarean to save the baby. While you travel, put the mother in the knee-chest position with her hips up and hold the baby's head off the cord.



With a gloved hand, gently push the baby's head up into the mother's body, away from the cord. Touch the cord as little as possible, but if some of the cord is coming out of the vagina, try to put it back in so it will stay warm and wet (if you cannot get it back in, wrap it in a clean cloth).

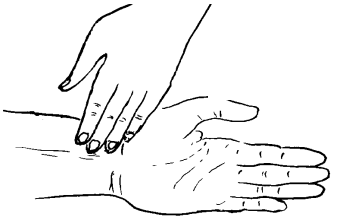
If medical help is many hours away **and** if the birth is going to happen very soon, you may need to help the woman push the baby out as quickly as she can at home. If the baby is born alive, he may need rescue breathing (see page 242).

If the cord has no pulse, the baby has already died. Stay at home to deliver the baby.

The mother's pulse

Check the mother's pulse every 4 hours, or more often if there is a problem. See page 120 to learn how to check the pulse.

During labor, a woman's pulse should be about the same as it was during pregnancy — between 60 and 100 beats a minute between contractions. It can be higher during a contraction.



A fast pulse can be caused by different problems:

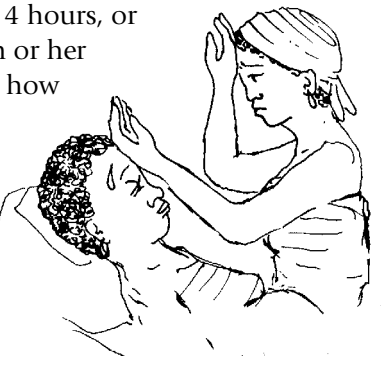
- infection (see page 179)
- blood loss (see pages 183 and 184)
- dehydration (see page 159)
- fear (see page 169)

A fast pulse can be normal in labor, especially in second stage. This can be OK if it goes back to its usual rate after the birth.

A very slow pulse or a pulse that keeps getting slower can be a sign of severe blood loss and shock. Look for signs of bleeding inside the body (see page 184).

The mother's temperature

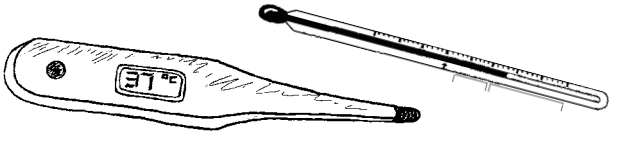
Check the mother's temperature every 4 hours, or more if her temperature has been high or her water is broken. See page 119 to learn how to check the mother's temperature.



If the mother feels warm, or if her temperature is between 37˚C (98.6˚F) and 38˚C (100.4˚F), she may be dehydrated. Have the mother drink more fluids and check her temperature often to see if it goes up more.

WARNING SIGNS Mother has a fever — a temperature of 38˚C (100.4˚F) or above — or she feels hot to the touch.

It can be normal for a woman to get very warm in labor, but a fever above 38˚C (100.4˚F) is usually a sign of infection.



If the mother has a fever, check for these other signs of infection:

- The baby's heartbeat is more than 180 beats a minute.
- The mother's pulse is more than 100 beats a minute.
- The mother's vagina smells bad.
- The mother has pain when she urinates.
- The mother's belly is sore or tender to the touch.
- The mother has pain in the sides or kidneys.

What to do

Because all infection in labor is dangerous, you should treat fever right away. Begin by giving the woman lots of fluids, like water, rehydration drink (see page 160), or herbal teas that lower temperature. Giving the mother a sponge bath with cool (not cold) water also may help.

It can be difficult to know what is causing a fever and infection. If you think the woman is seriously dehydrated, give rectal fluids (page 342) or IV fluids if you know how (page 350).

Check for signs of bladder or kidney infection (see page 128) and malaria (see page 98). If she does not seem to have one of those infections, she may have an infection of the womb or amniotic sac. Go to a medical center for antibiotics. If medical help is more than an hour away, give one of the following antibiotics on the way.

For womb infection in labor

On the way to the hospital

- give 2 g ampicillin ..... by mouth, 4 times a day for 7 to 10 days

and

- give 400 to 500 mg metronidazole ..... by mouth, 3 times a day for 7 to 10 days

The mother's blood pressure

If you have a blood pressure cuff and stethoscope, check the mother's blood pressure once every hour, between contractions (see page 122). Each time you check her blood pressure, write it down. This way you can watch for changes over time.

As long as her blood pressure stays below 140/90 and is close to the blood pressure she had during pregnancy, checking it every hour is enough. If you notice her blood pressure going up, even just a little, check it every 30 minutes.

WARNING SIGNS

Blood pressure goes down

If blood pressure suddenly drops 15 points or more in the bottom number, this is a dangerous warning sign. This usually means that the mother is bleeding heavily. If you do not see any bleeding, her placenta may have detached (see page 184) — she needs medical help now.

Blood pressure goes up

Blood pressure of 140/90 or higher is a warning sign. The woman may have pre-eclampsia. Pre-eclampsia can cause convulsions (eclampsia), detached placenta, bleeding in the brain, or a severe hemorrhage. The baby may die, and the mother may die as well. Page 125 explains more about pre-eclampsia.

If the mother has blood pressure of 150/90 or higher and protein in her urine, she already has pre-eclampsia. Get medical help right away.

If a woman has rising blood pressure, but you are not sure yet that she has pre-eclampsia, check for these other signs:

- strong headaches
- blurred or double vision
- sudden, steady pain in the top of the belly
- overactive reflexes (see page 125)

All of these can be signs of serious pre-eclampsia — get medical help. If she ever has blood pressure of 150/110 or higher, it does not matter if she has any other signs — get medical help immediately.

On the way to a medical center, the woman should lie on her left side and stay quiet and calm. If possible, the inside of the vehicle should be dark. Her labor may happen very fast. Stay by her side while you travel in case the baby is born or she has a convulsion.

Mother has convulsions (fits)

Pre-eclampsia can lead to convulsions. This is called eclampsia.

When a woman has a convulsion, she may have some or all of these signs:

- rolling eyes
- twitching hands and face
- stiff, rigid, or shaking body
- blue skin
- loud, bubbly sound while breathing
- unconsciousness

She may bite her tongue, urinate, or pass stool. She may have several convulsions in a row. Then she may sleep for a while. When she wakes up, she may be confused and not know what happened.

A convulsion may last anywhere from a few seconds to many minutes. Some convulsions are stronger than others, but **all convulsions are very dangerous**. More than half of the women who have convulsions in labor will die, or their babies will die, or both. Get medical help as soon as possible when the convulsion is over.

What to do

1. Stay calm.
2. Do not put anything in the mother's mouth. She must be allowed to breathe freely.
3. Put the mother on her side, so she does not breathe in her spit or vomit.
4. Remove hairpins or other sharp objects which could harm the mother.
5. Give the mother oxygen, if you have it (see page 173).
6. Give the mother medicine.

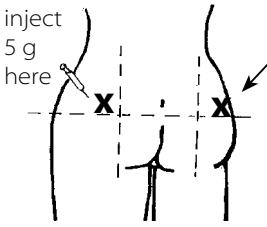
Medicines for eclampsia

Medicines for eclampsia are best used in a medical center because they have many dangerous side effects. These medicines can cause the mother to have trouble breathing, or cause the baby to have trouble breathing after he is born, especially if the mother is given more than the recommended doses. We explain how to use these medicines on the next page because in an emergency they can save a woman's life. But you should use them only if you have been trained and you are on the way to a hospital or medical center.

If the mother is having a convulsion, give her magnesium sulfate. If you do not have magnesium sulfate, give diazepam.

Magnesium sulfate for convulsions

- give 10 g magnesium sulfate 50% solution.....5 g injected deeply in each buttock

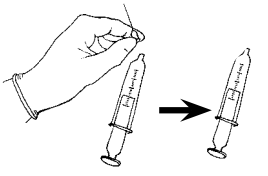


Before giving magnesium sulfate, count how many breaths the woman is taking each minute. Do not give magnesium sulfate if she is taking fewer than 16 breaths a minute. If her breathing slows to fewer than 16 breaths a minute after giving her magnesium sulfate, get medical help immediately.

Diazepam for convulsions (if you do not have magnesium sulfate)

During a convulsion, diazepam must be given rectally. It will not work well injected in the muscle, and the woman will not be able to swallow pills.

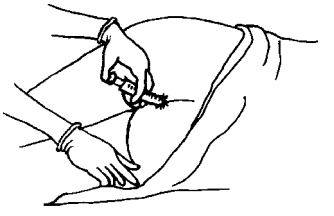
To prepare the medicine:



Wash and dry your hands and then put on plastic gloves.

Fill a syringe with the injectable drug and **take the needle off the barrel.**

Put the whole barrel of the syringe through the anus and push the plunger in to empty it inside the mother's rectum.



Keep the barrel of the syringe in the rectum for at least 5 minutes. It will act as a plug to keep the medicine from coming out.

Injectable diazepam

- give 20 mg injectable diazepam.....in the rectum, after the first convulsion.

then if there are other convulsions

- give 10 mg injectable diazepam.....in the rectum, at least 20 minutes after the first dose.

If you cannot get injectable diazepam

- crush 20 mg of diazepam pills into a fine powder and mix them with clean, cool water (the pills will not dissolve, but mix them with water anyway).

  First take the needle off of a syringe barrel. Then fill the barrel with the crushed pills and water and put the whole barrel of the syringe up into the rectum — the same as above.

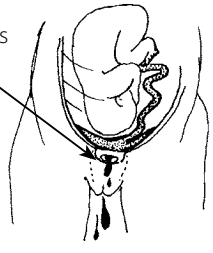
(If some fluid leaks out of the rectum, it is OK to give 5 mg more diazepam.)

Bleeding during labor

Some blood from the mother's vagina is normal. The mucus plug can be very red and bloody looking. But blood clots, bright red blood, or losing more than 200 milliliters (1 cup) of blood during labor are warning signs.

Bleeding without pain (placenta previa)

If a mother is bleeding and has no pain between contractions, she may have placenta previa, which means the placenta is covering the cervix (see page 112). There are usually signs of placenta previa in late pregnancy, but sometimes the first sign is bright red bleeding (enough to soak a pad) while the mother is in labor.
Get medical help immediately.



A placenta that covers the cervix, like this, will bleed fresh red blood when the cervix opens.

A woman with placenta previa can bleed to death very fast once the cervix is open, so it is not safe to wait and see if the bleeding gets worse. Treat for shock on the way to a medical center (see page 239).

WARNING! **Never do a vaginal exam if there is unusual bleeding.** You could poke a hole in the placenta with your finger and make the bleeding much worse.

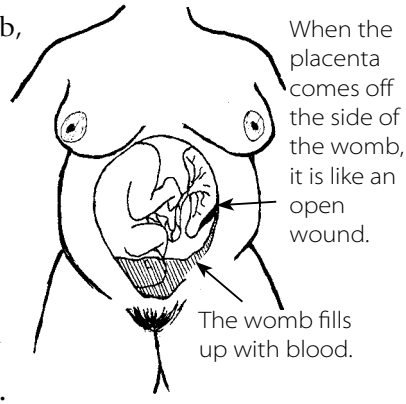
Pain in the womb

If the mother feels pain between contractions and the womb stays hard, or she feels unusual pain during contractions, it could mean that:

- the placenta is detached from the wall of the womb.
- the womb is torn.
- the womb is infected.

Detached placenta (abruption)

If the placenta separates from the wall of the womb, both the mother and baby are in serious danger. The mother may die from loss of blood because the place where the placenta was attached starts to bleed. The womb cannot squeeze this place closed while the baby is inside. The baby may die or have severe problems because she cannot get enough oxygen from her mother.



WARNING SIGNS

- The mother may have bleeding from the vagina, but **sometimes no blood comes out.**
- The mother has pain between contractions. The pain may be very mild at first, so pay close attention to any unusual pain. The danger is greatest if the pain gets worse and worse.
- The womb is hard between contractions, or hard all the time.
- The mother's belly is sore and tender to the touch.
- The mother has signs of shock (see page 239).
- The baby's heartbeat can be very fast (faster than 180 beats a minute) or very slow (slower than 100 beats a minute), or the baby could be dead (no heartbeat).
- The baby moves less or not at all.

If you see these signs of detached placenta, get medical help now. Do not wait! On the way to the hospital, treat the mother for shock (see page 239).

Torn womb

Any of these things can cause a torn womb:

- The mother had a cesarean surgery in a past birth.
- The mother has had 5 or more babies.
- The baby is lying in a difficult position.
- The mother's labor is very long and strong.
- The mother has a deformity of the pelvis.
- Someone has been pushing on the mother's belly, or her belly has been hit or injured.
- The mother has been given medicine (either by mouth or by injection) like oxytocin to start labor or make it stronger.

If you see signs of a torn womb, get the mother to the hospital right away — even if it is very far away! She can bleed to death very quickly, and the baby will also die. On the way, treat the mother for shock (see page 239). The mother will need an operation to stop the bleeding, blood to replace what she has lost, and antibiotics to prevent infection.

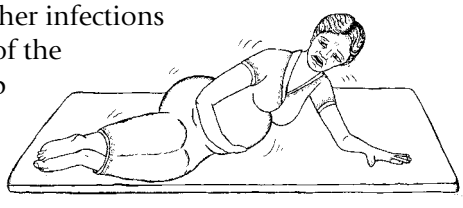
Because a torn womb is inside the mother, you cannot see it. But these signs tell you that the womb may be torn:

WARNING SIGNS

- The mother has very bad pain between contractions, then a tearing feeling in her belly, then less pain.
- The mother's contractions stop.
- The mother may bleed from the vagina (although sometimes no blood comes out).
- The mother has signs of shock (see page 239).
- The baby feels loose (and sometimes higher) in the belly and has no heartbeat.

Infected womb

Pain in the womb can also be caused by infection. An infected womb happens when harmful germs get inside the womb and make the mother sick. The signs of an infected womb are similar to the signs of other infections (see page 179). During labor, an infection of the womb can cause pain in or above the womb between contractions. An infected womb can also cause shock. See page 179 for what to do for an infection of the womb.



Watch for signs of progress

Labors are all different. Some are fast, some are slow. This is normal. But in a healthy labor, there should be progress. Progress means that labor should be getting stronger and the cervix should be opening.

As labor gets stronger, you should see more and more of these signs:

- Contractions get longer, stronger, and closer together
- The womb feels harder when you touch it during a contraction.
- Amount of show increases.
- Bag of waters breaks.
- The mother burps, sweats, and vomits, or her legs shake.
- The mother wants to push. This may mean that stage 2 is near or starting. Do not encourage the mother to start pushing until you are certain stage 2 is beginning (see page 195). Usually, if she cannot stop herself from pushing, she is already in stage 2.

WARNING! **Do not tell the mother to push before her cervix is completely dilated!** Forcing a mother to push in stage 1 — before the cervix is open — can make it rip or swell, and then it cannot open. This is very dangerous. Even if the mother avoids injuring the cervix, all the extra pushing will not bring the baby faster, it will only make the mother very tired, and make the birth more difficult.

Pushing too soon can also damage the mother's muscles and cause her to have less control of her bladder and bowels after the birth.

Pushing before the cervix is open is like trying to put on a shirt that is too small.

When to do a vaginal exam

The only way to be sure that the cervix is opening is to do a vaginal (internal) exam. But because vaginal exams increase the risk of infection, and you need training and gloves to do them, you should not do these exams unless there is a good reason. After you have been trained, you can use the instructions on page 339 to help you to do a vaginal exam, **but only if you have a good reason**.

Good reasons to do a vaginal exam are:

- a long, hard labor with no signs of progress. A vaginal exam can tell you if the cervix is opening.
- a prolapsed cord. In a vaginal exam, you can push the baby's head away from the cord (see page 176).
- any medical emergency. A vaginal exam can tell you if there is time to get medical help before the birth.

Never do a vaginal exam if there is heavy or unusual bleeding from the vagina (see page 112).

Labor is too long

WARNING SIGNS Labor is too long when strong contractions last more than 12 hours for women who have given birth before, or 24 hours for women giving birth for the first time.

Sometimes a long labor is fine, and there is no danger as long as the mother rests between contractions, drinks liquids, and urinates regularly. But a long labor can cause serious problems, including fistula (a hole in the vagina that can leak urine — see page 273), torn womb, or the mother or baby dying. When a mother is having a long labor, watch her closely for warning signs. Are the pains getting further apart? Does she have any signs of infection? Is she getting exhausted? Is the baby's heartbeat normal?

If there are no signs of progress, or if the labor lasts longer than 12 hours, something may be wrong.

Note: Never make a woman feel guilty if her labor is long or hard. Encourage her — do not blame her.

Some causes of slow or stuck labor in stage 1 are: the mother is afraid, upset, or tense, or she has become exhausted. Labor will also slow down or get stuck if the baby is in a difficult or impossible birth position, or if the baby cannot fit through the mother's pelvis.

Mother is afraid, upset, or tense

Fear and tension can slow labor. Here are some common causes of tension during labor:

- The physical pain of labor is frightening.
- This is a first baby.
- The mother's last baby was born dead, or died later.
- The mother does not want this child.
- The mother has no husband, partner, or family to help her.
- There are family problems.
- The mother was abused sexually as a child or as an adult.

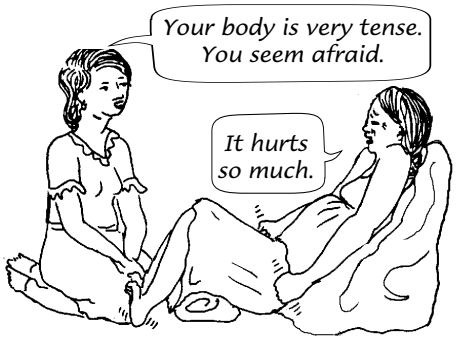
Unfriendly family members or neighbors can also make women much more tense and afraid, and should not attend the birth.

Good labor support and companionship can often reduce fear and tension and help labor to pick up. Try talking with the mother. Complicated feelings, like loneliness or not wanting a baby, can slow a labor. Compassion and letting her talk about her fears can help a mother find comfort.

Help the mother relax her body. If her arms, legs, and face are relaxed, it will help her cervix open, and help labor move forward. You can give her a massage, or a warm bath, or apply warm cloths to her body. Remember to treat the woman with care and respect.

Find other ways to help her feel calm and safe:

- Help her welcome the contractions. When each contraction begins, ask her to take a deep breath and let her muscles relax (see page 170 for ideas about breathing).
- Tell her what good work she is doing. Remind her how strong she is.
- Ask her to picture the cervix or the womb opening up and letting the baby out. Some women imagine other things opening — like flowers blooming.
- Remind her that every contraction helps bring the baby.



It is very common for mothers to get tense or afraid when labor starts to get strong. Reassure the mother that pain during labor is normal and helps bring the birth closer. If you think it will help the woman to relax, explain that when she resists, labor may be longer. But do not threaten or shame her.

Mother is exhausted

It is normal for a mother to get very tired during labor. But if a mother gets exhausted, she may have a longer, more dangerous labor, or labor may stop. If the mother is very tired, give her weak tea with lots of sugar or honey, fruit juice, or rehydration drink (see page 160). Find out which part of stage 1 labor she is in: light, active, or late labor.

Light labor

Light labor can go on for many hours or several days. If it does, the mother can get very tired and discouraged. If you think the birth is still a long time away, the mother should rest or sleep between contractions. Help her get comfortable and relaxed. Give her liquids, encouragement, and maybe a massage and a bath (if the bag of waters has not broken).

There may be traditional medicines or plants in your area that midwives use to help women sleep — for example, hops *(Humulus lupulus)*, passion flower *(Pasiflora)*, valerian *(Valeriana)*, or kava root *(Piper methysticum)*. If you know sleep plants that will not harm the baby, she can try them now.

Active labor

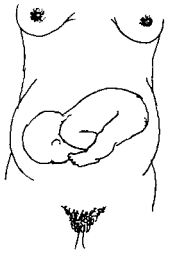
If the mother is in active labor but is not making progress, and the birth seems many hours away, help her eat, drink, and relax. But you should also try to get labor moving (see page 191). If she has been in active labor for more than 12 hours and birth is not near, take her to a medical center. Go sooner if the medical center is far away.

Late labor

If the mother is in late labor, she can probably make it to the end of the birth even if she is very tired. She needs encouragement and patience.

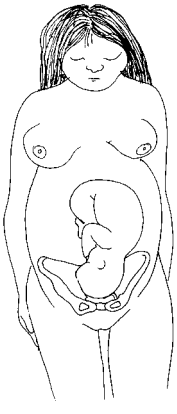
If the mother is exhausted, and contractions stop for more than 1 hour, or if they start but she does not make progress, take her to a medical center.

Baby does not fit through the mother's pelvis



If the baby is in a difficult position, or is too big to pass through the mother's pelvis, the baby cannot come out. The mother will labor until the womb tears and she dies of bleeding inside, or until she and the baby die of exhaustion. Even if she does give birth eventually, she may have serious damage to her vagina, bladder, or bowel (fistula, see page 273).

A baby is less likely to fit when:



- the mother is very young and her pelvis is not fully grown.
- the mother did not get enough good food when she was a child (this can make her grow up to be unusually small or to have a small pelvis).
- the mother has a deformity of the pelvis.
- the mother has diabetes.
- the baby is big, or grew unusually fast during pregnancy.
- the baby's head was still high and could be felt above the pubic bone when labor started.
- the mother had a hard time pushing out her last baby, and this one is bigger.
- the mother has been in labor for 8 to 12 hours with no progress. (If medical help is far away, go sooner.)

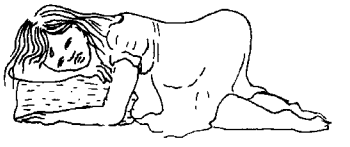
Because you cannot know for sure if the baby is too big to fit, let the mother labor a few hours and see what happens. Most of the time, even a very big baby comes out fine. But if the woman has been in strong labor for more than 12 hours without signs that the birth is near, get medical help. She may need to have a cesarean surgery for the baby to be born.

Baby is in a difficult or impossible birth position

Labor is usually shortest when the baby is head down, facing the mother's back. If the baby is in another position she may be difficult or impossible to deliver.

Baby faces the mother's stomach (posterior)

If a baby faces forward, she can often be born without problems, but the labor is usually longer. You may want to use gentle methods to make the labor stronger (see page 191). It may also help to:



- ask the mother to rest in a hands-and-knees position for an hour or more. (It is OK if she needs to walk and stretch her legs between contractions.)
- have the mother do the angry cat exercise between contractions.

These positions can help the baby to turn and face the mother's back.

angry cat exercise

Baby comes face first or forehead first

The way the baby holds her head can slow or prevent the birth.

If the baby is either face first or forehead first, it may be possible for her to be born normally, but the birth will be much harder. Get medical help. Do not try to change this baby's position.

Most babies tuck their heads in like this:

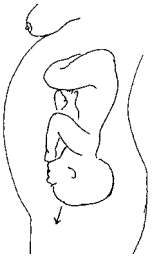
This makes it easier for the head to fit through the mother's pelvis.

But sometimes the baby is face first:

This makes it much harder to fit through the mother's pelvis.

This baby is forehead first:

This baby usually cannot fit through the mother's pelvis.



Baby is breech

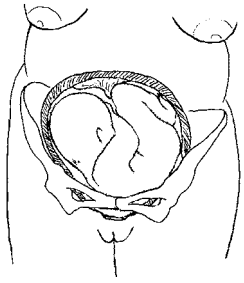
Breech babies (bottom or feet first) often take longer to be born but if the baby is early or small, the labor may go quickly. A breech position can be more dangerous for the baby than head first. It may be possible to turn the baby (see page 369). If you cannot safely turn the baby and you are not experienced with breech birth, get medical help.

See page 215 to learn more about breech birth.

Baby lies sideways

A baby that lies sideways in her mother's womb cannot be born in this position.

The baby may turn easily (see page 369). But only try to turn a baby if the mother has had babies before, her contractions are more than 15 to 20 minutes apart, her bag of waters has not broken, and you are skilled at turning babies. If it is not safe to turn this baby, or if the baby cannot be turned, **get medical help immediately**! The baby must be born by a cesarean surgery.



A baby who lies sideways will not fit through the mother's pelvis.

Safe ways to encourage labor

If labor is taking too long, or needs to be started, there are some safe ways to encourage it. These methods will not hurt the mother or baby, and they may help strengthen labor.

Try encouraging labor when:

- the bag of waters has broken, the head is engaged, and labor has not started or the birth is not near.
- the mother has been in active labor for several hours, but the birth is not near.
- the mother has been in light labor for many hours. The labor is active enough to keep her from resting but it is not strong enough to open the cervix.

Do not try to encourage labor if there are warning signs that mean you should take the mother to a medical center. Especially do not encourage labor if the baby is sideways in the womb, if there is unusual bleeding, or if the baby's heartbeat is less than 100 beats in a minute. Encouraging labor at these times can endanger the baby and waste time. If there are warning signs — **get medical help**!

Try any of these methods to encourage labor, but if they do not seem to work after an hour or 2, think about bringing the woman to a medical center. Waiting too long for a birth can be dangerous. If you see no signs of progress after 8 to 12 hours of active labor, or if progress stops for several hours, take the mother to a medical center quickly. This is especially important if the medical center is more than 1 hour away.

(There are more ways to start or strengthen labor starting on page 341. Those methods have more risk, so should only be used if there are no other options.)

WARNING! **Never use medicines to start labor at home (such as oxytocin or misoprostol) .** These medicines can cause contractions strong enough to kill the baby or the mother.

Walking and moving

Labor often gets stronger if a mother stands or walks. This is because the baby's head presses down on the cervix and causes stronger contractions. Some women also get stronger contractions just by changing positions. See page 162 for ideas about positions.

Nipple stimulation

When a baby sucks on a woman's nipples, her body makes the hormone oxytocin. Oxytocin causes stronger contractions.

If the woman has older children who are breastfeeding, ask her to let them suck. If she does not have nursing babies, her partner can try sucking. Suck for 10 minutes, then wait for 10 minutes, then suck again.

If the woman does not want anyone to suck her nipples, she can squeeze and massage them. She should keep squeezing and massaging until her contractions get strong. Her contractions should start to get stronger within about half an hour. If they do not, nipple stimulation probably will not help.

Acupressure (pressure on certain parts of the body)

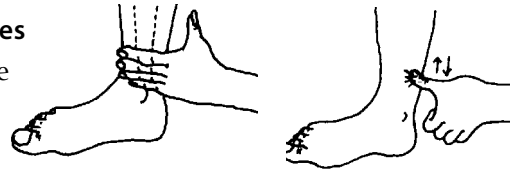
Massage sometimes helps start a labor or make a weak labor stronger. One kind of massage is called acupressure. It is based on a Chinese method of healing. In acupressure, you press strongly on certain points on a person's body. If you know other kinds of massage that help start labor, use these methods! (But do not firmly massage the woman's belly. This can cause the placenta to separate from the womb.)

Before you give acupressure, help the woman relax her body. Rub her feet or massage a little oil into her lower back. When her body is relaxed, you can start the acupressure massage.

Press your thumb on the places listed below and on the next page. Find the general area, and then move your thumb around a little until you find a place that feels sore to the woman. When you find the sore spot, press for about a minute.

If the method is working, the woman may feel a tingling sensation or soreness around the point. She may also feel the baby start to move, or she may feel energy or an ache in her lower belly.

Inside the legs, 4 fingers above the ankles

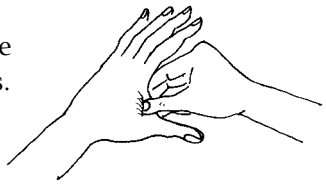


First put four fingers above the ankle bone on the inside of the leg. Then press the spot just above your fingers. Press on the back of the bone.

Move your thumb up and down a little, or in small circles.

The hand, between the thumb and finger

Put your fingers into her palms and your thumbs on the outsides of the hands. Rub your thumbs in small circles. This is also a good place to press to help a woman in labor feel less pain.



The foot, near the big toe

If the first 2 methods (the leg above the ankle and the hand) do not work after about 5 or 10 minutes, or if the mother is especially tense or angry, try putting pressure near the big toe. Rub your thumb in small circles. **Do not use this point if the mother is bleeding.**

These are some other spots that sometimes work:

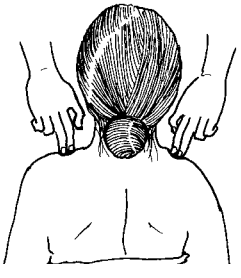
Between the eyes

Gently stroke upwards on the forehead, especially if the mother is very tense.

The top of the shoulders

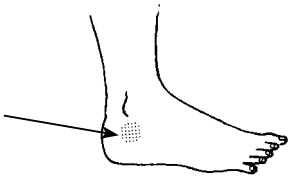
Press hard for about half a minute (or count to 30). Stop for 2 or 3 minutes and then press again. Keep trying like this for a while.

This point is also good to press after the birth if the mother has a breast infection.



Below the ankle bone

Press this point to bring down a baby who is very high in the pelvis.



The bottom of the foot

If nothing else works, press in here, very hard. This point can help a woman who is very afraid.

Watch the labor closely. If acupressure massage is going to work, you will usually see contractions start or get stronger within the first 10 minutes. If it does not work right away, the woman should walk around a little and you can try again. As long as acupressure is helping the labor, keep doing it until the labor stays strong on its own. This may be a few minutes or a few hours.

CHAPTER 12
Pushing: stage 2 of labor

In this chapter:

Watch for signs that stage 2 is near or starting 195

What happens during stage 2 of labor 196

How the baby moves through the vagina 197

Help the mother have a safe birth 199

Check the mother's and baby's physical signs 199

Support the mother's pushing 200

Watch for warning signs 202

Watch the speed of the birth 202

Watch for bleeding during pushing 205

Help the mother give birth 206

Help prevent tears in the vaginal opening 206

If necessary, clear the baby's nose and mouth 208

Check for a cord around the baby's neck 209

Deliver the baby's shoulders 210

Deliver the baby's body and give the baby to the mother 212

Stool in the amniotic waters (green or yellow) 213

Cut the cord when it turns white and stops pulsing 214

Baby is breech 215

Delivering a frank or complete breech 216

Delivering a footling breech 218

Delivering twins 219

Dangers of twin births 219

Delivering twins 220

Baby is very small or more than 5 weeks early 221

Pushing: stage 2 of labor

CHAPTER 12

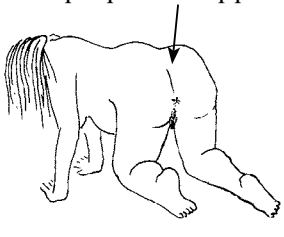
Stage 2 is the part of labor when the mother pushes the baby out of the womb and down the vagina, and the baby is born. Stage 2 begins when the cervix is completely open and ends when the baby is outside of the mother. It is normal for stage 2 to be as short as a few minutes or as long as 2 hours.

Watch for signs that stage 2 is near or starting

It is safe for the mother to start pushing her baby out when her cervix has opened all the way **and** she has a strong urge to push. The only way you can be certain the cervix is open all the way is to do a vaginal exam (see page 339). But remember: vaginal exams can cause infection. It is better not to do a vaginal exam. With experience, you can usually tell when the mother is ready to push without doing an exam.

Instead of doing a vaginal exam, look for the following signs. If the mother has 2 or more of these signs, she is probably in stage 2.

- The mother feels an uncontrollable urge to push (she may say she needs to pass stool). She may hold her breath or grunt during contractions.
- Contractions come less often. But the contractions stay strong or get stronger.
- The mother's mood changes. She may become sleepy or more focused.
- A purple line appears between the mother's buttocks as they spread apart from the pressure of the baby's head.

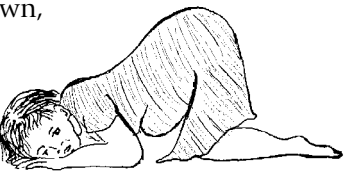


- The mother's outer genitals or anus begin to bulge out during contractions.
- The mother feels the baby's head begin to move into the vagina.

Pushing too early

If the mother starts pushing before her cervix is fully open, the baby will not be able to come out because the partially closed cervix will block the way. Pushing too early can also make the cervix swell and stop opening. This will make labor longer. Even if you know that the cervix is fully open, do not encourage the mother to push until she is overwhelmed by the urge. Pushing too early will only tire the mother.

If the mother has been pushing without progress for more than 30 minutes and you have been trained to do vaginal exams, you can do one now. If you feel even a little of the cervix, put the mother in the knee-chest position. This position lifts the baby off the cervix so that the swelling can go down, and the cervix can start opening again.

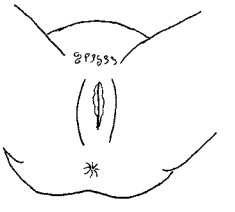


Help the mother stay in this position without pushing for an hour or so. When the cervix is fully open, she can try pushing again.

What happens during stage 2 of labor

During stage 2, when the baby is high in the vagina, you can see the mother's genitals bulge during contractions. Her anus may open a little. Between contractions, her genitals relax.

Genitals bulge **during contractions.**

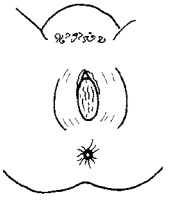


Genitals relax **between contractions.**

Each contraction (and each push from the mother) moves the baby further down. Between contractions, the mother's womb relaxes and pulls the baby back up a little (but not as far as he was before the contraction).

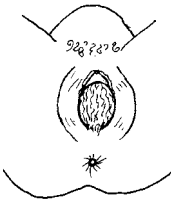
After a while, you can see a little of the baby's head coming down the vagina during contractions. The baby moves like an ocean tide: in and out, in and out, but each time closer to birth.

Each contraction brings the baby closer to birth.

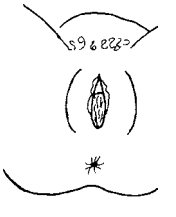


During a contraction, the baby's head shows.

Between contractions, the baby's head goes back inside the vagina.



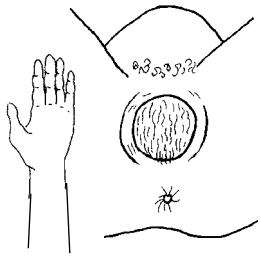
A little more of the baby's head shows with each contraction.



The head slips back but not as far as before.

When the baby's head stretches the vaginal opening to about the size of the palm of your hand, the head will stay at the opening — even between contractions. This is called crowning.

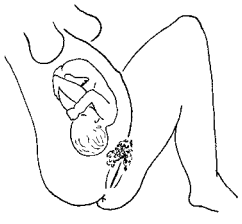
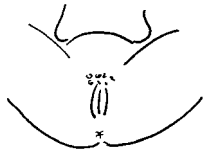
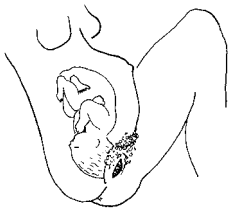
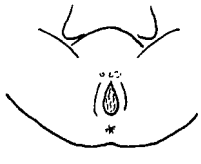
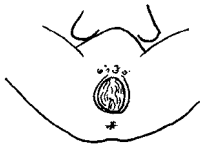
Once the head is born, the rest of the body usually slips out easily with 1 or 2 pushes.



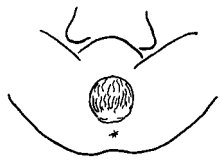
When the head crowns, the vaginal opening is a bit larger than the palm of a hand.

How the baby moves through the vagina

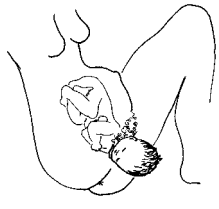
Babies change position as they move through the vagina. These pictures show only part of the mother's body, so you can more easily see how the baby moves inside.

This is what happens inside:		This is what you see outside:
	First **the baby tucks his head down**, chin to chest. This makes it easier for the head to fit through the mother's pelvis.	
	The baby's head is squeezed and changes shape as it comes through the mother's pelvis. **The baby turns his face toward the mother's back.**	
	**The baby begins to lift his chin** when he gets near the vaginal opening. This is called extension.	
	The baby lifts his chin more when **his head crowns**.	

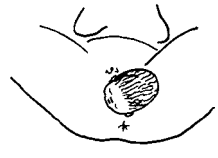
The baby continues to lift his chin as the **head comes out**. This way the head is born smoothly.

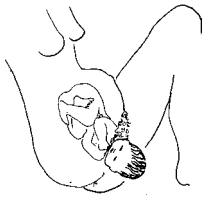


The baby continues lifting his chin until his head is born. At first, the baby's face is still toward the mother's back, while his shoulders are turned at an angle.

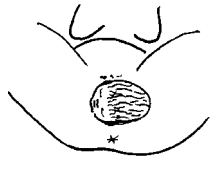


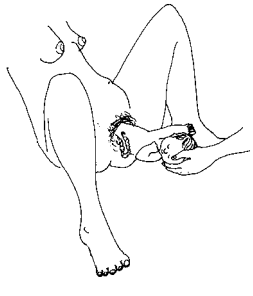
Soon **the baby's head turns toward the mother's leg**. Now the baby's face is lined up with his shoulders.





Then **the baby's whole body turns inside the mother**. The baby's shoulders are now straight up and down. The baby faces the mother's leg.





The rest of the baby slips out easily.

Note: Babies move this way if they are positioned head-first, with their backs toward their mothers' bellies. But many babies do not face this way. A baby who faces the mother's front, or who is breech, moves in a different way. Watch each birth closely to see how babies in different positions move differently.

Help the mother have a safe birth

Check the mother's and baby's physical signs

The mother's physical signs

Check the mother's blood pressure and pulse every 30 minutes or so during stage 2 for signs of pre-eclampsia, infection, or bleeding. Write down the numbers each time.

If the mother's blood pressure is 140/90 or higher she may have pre-eclampsia (see page 180). If it suddenly drops more than 15 points in the bottom number, she may be losing blood (see page 183). If her pulse is faster than 100 beats a minute between contractions, she may be dehydrated (see page 159), have an infection (see page 179), or be losing blood (see page 183).

The baby's physical signs

The baby's heartbeat is harder to hear in stage 2 because it is usually lower in the mother's belly.

An experienced midwife with good equipment may be able to hear the baby's heart between contractions. You can hear it best very low in the mother's belly, near the pubic bone. It is OK for the heartbeat to be as slow as 70 beats a minute during a pushing contraction. But it should come right back up as soon as the contraction is over.

If the baby's heartbeat does not come back up within 1 minute, or stays slower than 100 beats a minute for more than a few minutes, the baby may be in trouble.

Ask the mother to change position (see the next page), and check the baby's heartbeat again. If it is still slow, ask the mother to stop pushing for a few contractions. Make sure she takes deep, long breaths so that the baby will get air. See page 172 to find out some reasons why the heartbeat may be slow.

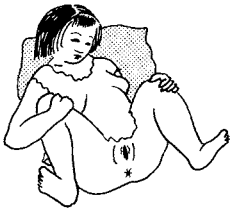
If the baby's heartbeat is fast, see page 173.

Support the mother's pushing

When the cervix is open, the mother's body will push the baby out. Some midwives and doctors get very excited during the pushing stage. They yell at mothers, "Push! Push!" But mothers do not usually need much help to push. Their bodies push naturally, and when they are encouraged and supported, women will usually find the way to push that feels right and gets the baby out.

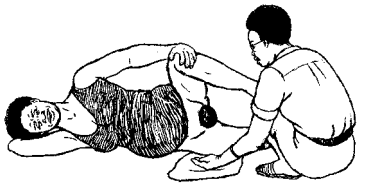
Let the mother choose the position that feels good to her

Half-sitting



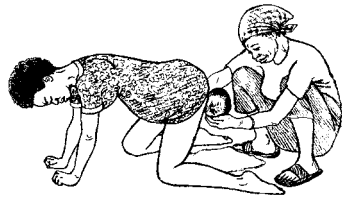
This position may be the most comfortable, and makes it easier for the midwife to guide the birth of the baby's head.

Lying on the side



This position is relaxing and helps prevent tears in the vagina.

Hands-and-knees



This position is good when the woman feels her labor in her back. It can also help when the baby's shoulders get stuck (see page 210).

Standing

Squatting or sitting on a pillow

Sitting on lap or birth chair

These 3 positions can help bring the baby down when the birth is slow.

Note: It is usually not good for the mother to lie flat on her back during a normal birth. Lying flat can squeeze the vessels that bring blood to the baby and the mother, and can make the birth slower. But if the baby is coming very fast, it is OK for the mother to lie on her back.

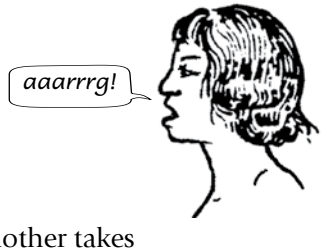
If the mother needs help pushing

A woman's own urge to push usually brings the baby down best. But sometimes a mother needs suggestions for comfortable positions and methods of pushing. She may need help if she does not get an urge to push even after her cervix has been completely open for several hours — or if the way she is pushing does not seem to be bringing the baby down. Tension and fear can make it hard for her to open up and let the baby out. Or she may need help pushing when the baby is in trouble (his heartbeat is too slow) and the birth must happen very fast.

Here are 3 ways of pushing that often work well:

Pant pushing: The mother pants and gives several short, strong pushes during each contraction.

Moan or growl pushing: The mother takes a deep breath. Then she gives a long, low moan or growl and a strong push during the contraction.

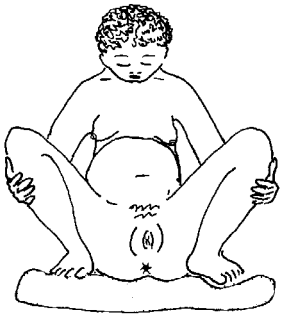


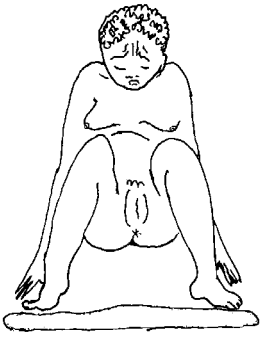
Hold-the-breath pushing: The mother takes 2 deep breaths, holds the second breath, and then during the contraction, pushes as hard and long as she can. She should keep her chin on her chest. This may be the best method if the baby is coming slowly.

During each push, the mother should keep her mouth and legs relaxed and open, her chin down on her chest, and her bottom down.

Sometimes women push down and pull up at the same time. This pulling holds the baby in instead of pushing her out. Pulling slows progress and makes labor more painful. Encourage the mother to hold her bottom down and keep her thighs relaxed and open. She can also try the hold-the-breath method for pushing.

YES!
This mother is pushing her bottom down.





NO!
This mother is lifting her bottom up.

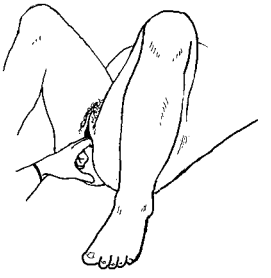
If the mother is tense or having trouble pushing, these things may help:

Ask the mother to change positions.

Ask the mother to open her mouth and relax her jaw.

Apply clean, warm, wet cloths to her genitals.

Put a gloved finger about 2 centimeters into her vagina and press straight down towards her bottom. (Do not rub the vagina.)



Ask the mother to pull her knees up towards her body.

Support the mother's pushing

If a mother has difficulty pushing, do not scold or threaten her. And **never insult or hit a woman to make her push**. Upsetting or frightening her can slow the birth. Instead, explain how to push well. Each contraction is a new chance. Praise her for trying.

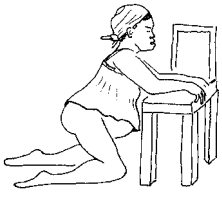
Tell the mother when you see her outer genitals bulge. Explain that this means the baby is coming down. When you see the head, let the mother touch it. This may also help her to push better.

Watch for warning signs

Watch the speed of the birth

Watch the speed of each birth. **If the birth is taking too long, take the woman to a medical center**. This is one of the most important things a midwife can do to prevent serious problems or even death in women.

First babies may take a full 2 hours (and sometimes more than 2 hours) of strong contractions and good pushing to be born. Second and later babies usually take less than 1 hour of pushing. Watch how fast the baby's head is moving down through the birth canal. As long as the baby continues to move down (even very slowly), and the baby's heartbeat is normal, and the mother has strength, then the birth is normal and healthy. The mother should continue to push until the head crowns.



But pushing for a long time with no progress can cause serious problems, including fistula (see page 273), torn womb, or even death of the baby or mother. If you do not see the mother's genitals bulging after 30 minutes of strong pushing, or if the mild bulging does not increase, the head may not be coming down. If the baby is not moving down at all after 1 hour of pushing, the mother needs help.

Baby is not born after 1 or 2 hours of strong contractions and good pushing

If you do not see signs that the baby's head is coming down, or if the baby seems to be stuck, find out what is causing the slow birth. Some causes of a slow or stuck pushing stage are:

- the mother is afraid.
- the mother is exhausted.
- the mother has a full bladder.
- the mother needs to change positions.
- the baby is in a difficult or impossible birth position.
- the baby does not fit through the mother's pelvis.

Page 191 suggests ways to help a woman whose labor is slow because she is afraid or exhausted.

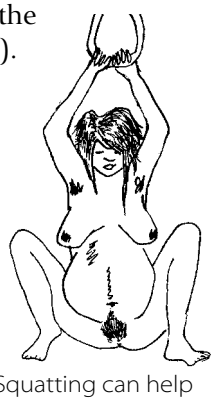
Mother has a full bladder

A full bladder can slow labor or even stop it completely. Laboring for many hours with a full bladder can lead to fistula or other problems. Help the mother urinate or, if necessary, put in a catheter (see page 352).

Mother needs to change positions

If one position does not bring the baby down, try other positions. The position that usually works best is squatting. Squatting opens the pelvis, and uses gravity to help the baby move down.

Try giving the mother something to hold on to. For example, she can hold on to a door knob or a rope tied to the ceiling, and pull down as she pushes.



Squatting can help bring the baby down.

Baby is in a difficult or impossible birth position

See page 190 for a description of difficult or impossible birth positions.

If the baby is lying facing the mother's stomach, it may be easier for the mother to push in either the hands-and-knees position or in the squatting position. This may help the baby turn to face the mother's back as he comes down.

Sometimes the baby's head is tucked down the way it should be but it is off to one side (asynclitic). It may help if the mother walks, lifting one leg up at a time — as if she were walking up stairs or a steep hill.

If the baby is face first or forehead first, the birth may be difficult or impossible. If you think this may be the problem, get medical help right away. While you are traveling, help the mother stop pushing (see page 207).

Baby is unable to fit through the mother's pelvis

If the inside of a mother's pelvis is very narrow, or a baby's head is very big, the birth may slow or stop. (The size of the outside of the mother's hips does not matter.) If the mother keeps pushing for hours with no progress, her womb may tear open, she may get a fistula (see page 273), or she and the baby may die of exhaustion.

If the baby cannot fit through the mother's pelvis, the first stage of labor was probably longer than normal too.

If there is no progress — get medical help

If you have tried different methods for bringing the baby down — better pushing, different positions, emptying the bladder, rehydration drink, acupressure, and any other methods you know — and you still see no progress after 1 hour of good pushing, take the mother to a medical center. It is not safe to wait until more warning signs appear.

If you are far from a medical center, do not wait more than 1 hour — get medical help right away. **Thousands of women die every year because they did not get medical help soon enough.**

While you are traveling, help the mother stop pushing (see page 207). Put her in the knee-chest position (or some other position with her hips up) to take some of the pressure off the baby's head.

WARNING! **Never push on the mother's belly to hurry the birth.** Pushing on the belly can make the placenta separate from the womb, or tear the womb. This can kill the baby or the mother!

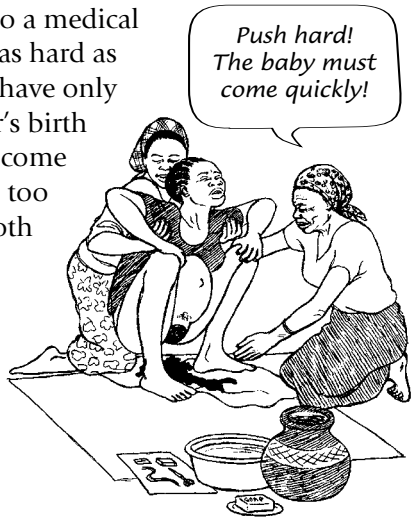
Watch for bleeding during pushing

A small amount of blood from the vagina, especially bloody mucus, is normal during stage 2. It is a sign that the baby is moving down. But a gush of fresh blood can be a sign of a detached placenta or a torn womb (see page 184).

Detached placenta (abruption)

If the mother has signs of detached placenta (a sudden gush of blood from the vagina, very fast or very slow baby's heartbeat, tense or sore womb, shock) go to a hospital or medical center right away.

If the birth is near and you cannot get to a medical center, have the mother push as long and as hard as she can. Get the baby out fast — you may have only a few minutes. If necessary, cut the mother's birth opening to make it larger so the baby can come out faster (see page 354). If the baby takes too long to be born, he and the mother can both die.



Be ready! This baby may need extra help to start breathing (see page 241), and the mother may bleed heavily after birth (see page 224). Get help so that someone can care for the baby while you care for the mother.

Torn womb

If the mother has a torn womb, her contractions will stop and she may feel very strong, constant pain. The baby's heartbeat will get very slow and then stop.
If you think the womb may have torn, treat the mother for shock (see page 239).
Get medical help immediately, even if it is far away.

Help the mother give birth

Help prevent tears in the vaginal opening

The birth of the baby's head may tear the mother's vaginal opening.

Some midwives do not touch the vagina or baby at all during the birth. This is a good practice because interference can lead to infection, injury, or bleeding. But you may be able to prevent tears by supporting the vagina during the birth.

Often tears happen whether you try to prevent them or not.

Cutting a circumcision scar

In some communities, circumcision of girls (also called female genital cutting) is common. Female genital cutting (FGC) causes scars that may not stretch enough to let the baby out.

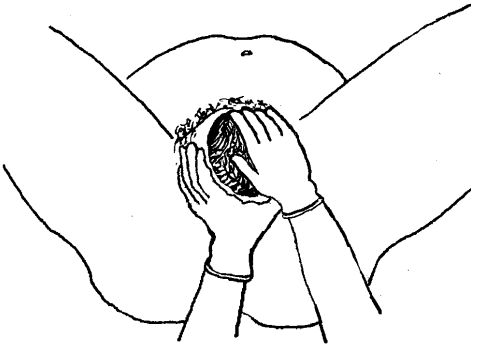
If the mother has been circumcised, you may need to cut open the scar of the circumcision before the baby's head starts to crown. Page 367 explains more about female genital cutting, and how to cut a circumcision scar.

You should not cut the opening of the vagina to let the baby out, except in an emergency or for a woman who has had FGC. See page 354 to learn how to cut the opening of the vagina in an emergency.

Support the vaginal opening

These instructions can be used when the baby is in the most common position — facing the mother's back.

1. Wash your hands well and put on sterile gloves.
2. Press one hand firmly on the perineum (the skin between the opening of the vagina and the anus). This hand will keep the baby's chin close to his chest — making it easier for his head to come out. Use a piece of cloth or gauze to cover the anus.
3. Use your other hand to gently move the top of the baby's head down towards the mother's bottom and out of the vagina.



Use very warm cloths

Warm cloths around the vaginal opening help bring blood to the skin, making it more soft and stretchy:

1. Boil a pot of water for 20 minutes to kill any germs. If possible, add a little disinfectant (like iodine or betadine). If you do not have a disinfectant, add a little salt to the water. Let the water cool a little before you use it. The water should be hot, but not hot enough to burn the mother.
2. Dip a clean cloth in the water and squeeze it out.
3. Press the cloth gently on the mother's genitals.

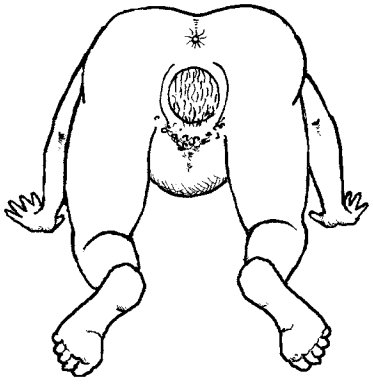
Slow the birth of the head

If the head is born slowly, the mother's vagina has more time to stretch and may be less likely to tear. To slow the birth of the head, help the mother stop pushing, or give very small pushes, right before the baby's head crowns.

To help the mother stop pushing

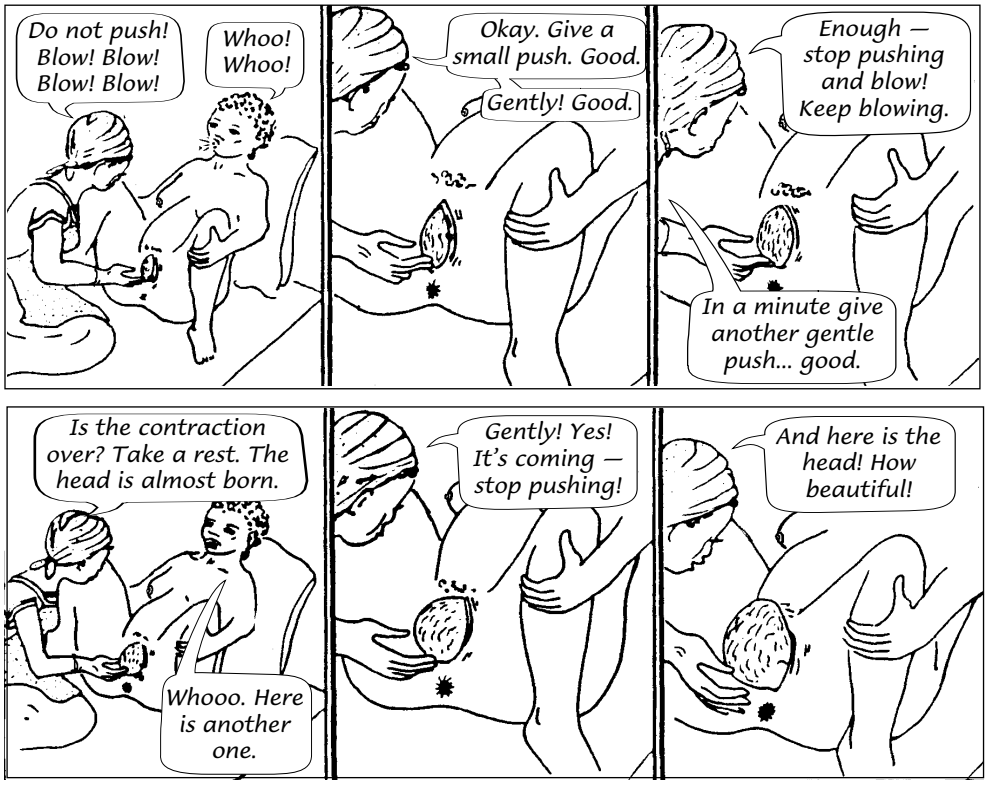
The need to push can be very strong, so it is not always easy for the mother to stop. It is best to warn the mother that you are going to ask her to stop pushing before the baby crowns.

When you want the mother to stop pushing, tell her to blow hard and fast. (It is difficult to blow and push at the same time.) Or, if the baby's head is not coming out and the mother can control her pushing, ask her to give very small pushes in between contractions — and then stop and blow during the contractions. This gives her skin time to stretch. Each small push should move the head no more than 1 centimeter farther out of the mother. A centimeter is this long: |←→|



This mother should **stop pushing**. The baby's head is about to crown.

After the widest part of the head comes out, the rest of the head may come out without any pushing at all.


Do not push! Blow! Blow! Blow! Blow!
Whoo! Whoo!
Okay. Give a small push. Good.
Gently! Good.
Enough — stop pushing and blow! Keep blowing.
In a minute give another gentle push... good.
Is the contraction over? Take a rest. The head is almost born.
Whooo. Here is another one.
Gently! Yes! It's coming — stop pushing!
And here is the head! How beautiful!

WARNING! **Do not slow the birth of the head if:**

- **there has been a gush of blood before the birth** (see page 205).
- **there is a prolapsed cord** (see page 176).
- **the baby's heartbeat is very slow** (see page 172).
- **you think the baby may be in trouble.**

In any of these cases, the baby must be born as quickly as possible.

If necessary, clear the baby's nose and mouth

When the head is born, and before the rest of the body comes out, you may need to help the baby breathe by clearing her mouth and nose. If the baby has some mucus or water in her nose or mouth, you can wipe it gently with a clean cloth wrapped around your finger. You do not need to suction.

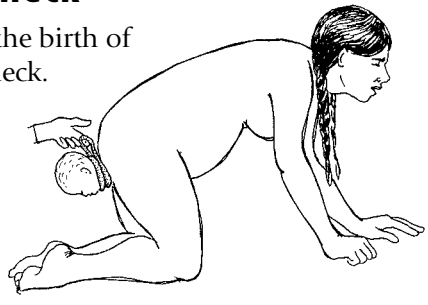
A baby who might have breathed in some waters should be held with her head a little lower than the rest of her body, so fluid can drain out.

If the waters were yellow or green it means the baby may have meconium (stool) in her mouth and nose and risks breathing it into her lungs. You may need to be ready to clean out the baby's mouth with a suction trap or a bulb syringe (sometimes called an ear syringe).

But remember that **most babies do not need to be suctioned at all**. Suctioning can cause the baby to have trouble breathing. Only suction if there is meconium (see pages 213 to 214).

Check for a cord around the baby's neck

If there is a rest between the birth of the head and the birth of the shoulders, feel for the cord around the baby's neck.



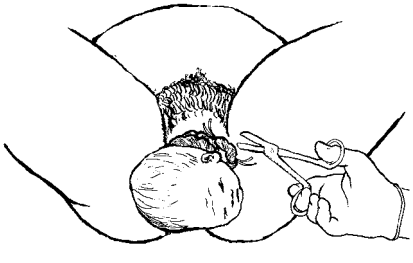
If the cord is wrapped loosely around the neck, loosen it so it can slip over the baby's head or shoulders.

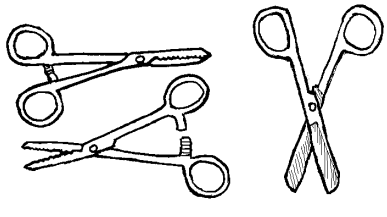
If the cord is very tight, or if it is wrapped around the neck more than once, try to loosen it and slip it over the head.

If you cannot loosen the cord, you may need to deliver the baby around the cord. As the head begins to deliver, keep the head close against the mother's thigh, and let the baby's body somersault out around the head. Once the baby is out, you can unwind the tight cord and let the trapped blood flow back into the baby.

It is very rare that a tight cord would prevent a baby from being born. If the baby has already been born up to the shoulders, the cord should be long enough for the body to be born too. If a baby's head is born and the body is not coming, most likely the shoulders are stuck (see pages 210 to 212).

If you cut the cord before the birth of the baby, the baby cannot get any oxygen until he begins to breathe, which makes an emergency. In the very rare case you must cut a cord before the birth of the baby, use medical hemostats and blunt-tipped scissors for clamping and cutting the cord in this situation. If you do not have them, use clean string and a new or sterilized razor. Be very careful not to cut the mother or the baby's neck.





medical hemostats

blunt-tipped scissors

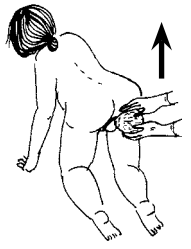
WARNING! **If you cut the cord before the birth of the baby, the mother must push hard and get the baby out fast.** Without the cord, the baby cannot get any oxygen until he begins to breathe.

Deliver the baby's shoulders

After the baby's head is born and he turns to face the mother's leg, wait for the next contraction. Ask the mother to give a gentle push as soon as she feels the contraction. Usually, the baby's shoulders will slip right out.

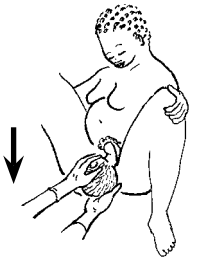
To prevent tearing, try to bring out 1 shoulder at a time.

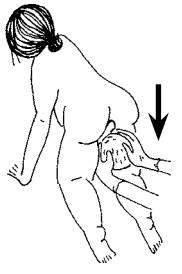
If the mother is in the hands-and-knees position



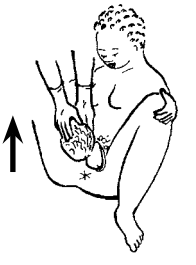
Bring out the first shoulder by gently moving the baby's head towards the mother's bottom.

If the mother is in the half-sitting position



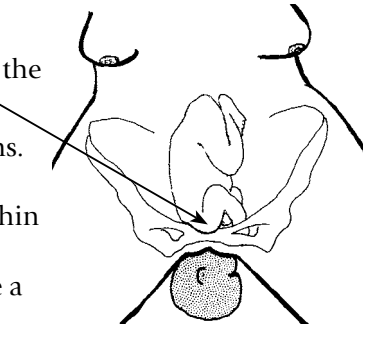


Bring out the second shoulder by moving the baby towards the mother's belly.



WARNING! Do not bend the baby's head far. Guide the head — do not pull it.

Baby gets stuck at the shoulders



Sometimes a baby gets stuck at the shoulders. One of the shoulders is stuck behind the mother's pubic bone.

Before this happens, there are usually warning signs. His head may take lots of hard pushing to be born, instead of coming out smoothly after it crowns. The chin may not quite come out. Sometimes it looks as if the baby's head is being pulled back into the mother, like a turtle pulling its head into its shell.

Sometimes when the head is born, it will be pulled tight against the mother's genitals. The baby may not turn to face the mother's thigh. Even hard pushing will not bring the shoulders out.

A baby who is stuck at the shoulders is in danger! The pressure of the mother's vagina on the baby's body forces blood into the baby's head. The head turns blue, and then purple. After about 5 minutes, the blood vessels in the baby's brain may begin to break and bleed from the pressure. This will cause brain damage. In time, the baby will die.

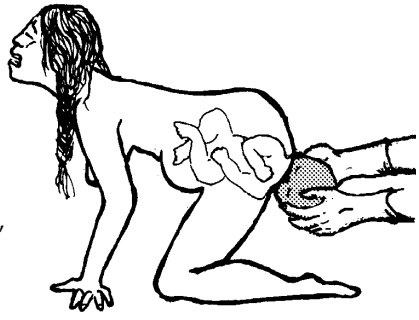
What to do

You may have to do things which cause pain to the mother but are necessary to save the baby's life and prevent brain damage. **You must work quickly.** As you are working be sure to reassure the mother to help her stay relaxed.

Here are 4 methods for helping the shoulders come out. Try one method at a time, in the order listed here.

1. Try the hands-and-knees position.

Put the mother in the hands-and-knees position.



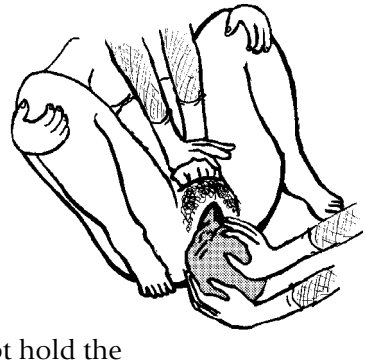
Cup your hands around the baby's head and gently pull straight back while counting to 30. When you see the shoulder, pull up and deliver normally.

If this does not work, try the next method.

2. Try pressure above the pubic bone.

Quickly bring the mother to the edge of the bed. If she is on the floor, put something under her hips to raise them off the ground. You will need some space for the baby's head when you pull down.

Help the mother grab her knees and pull them back as far as she can. Have helpers hold her legs in this position.



Ask a helper or any other person in the room to press hard just above the mother's pubic bone — not on the mother's belly. The helper should push down hard.

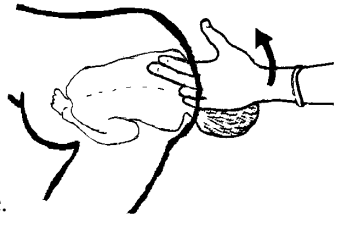
Ask the mother to push as hard as she can.

Cup your hands around the baby's head (do not hold the baby's neck) and gently pull straight back while counting to 30. When you see the shoulder appear, pull up gently on the head and deliver normally.

If this does not work, try the next method.

3. Try pushing the baby's shoulder from the inside.

With the mother in the hands-and-knees position, put your gloved hand inside the vagina along the baby's back. Put your fingers on the back of the shoulder that is nearest to the mother's back.



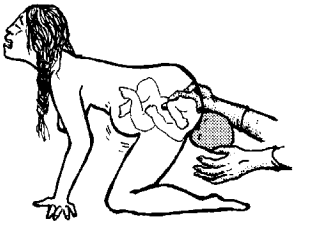
Push the shoulder forward until it moves to the side.

Deliver the baby in the usual way, pulling back while counting to 30.

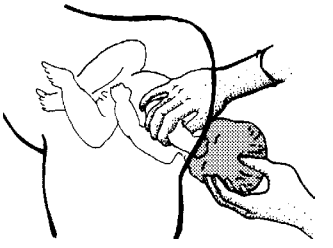
If this does not work, try the next method.

4. Try pulling the baby's arm out of the vagina.

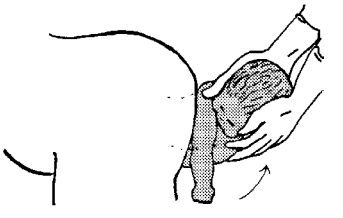
Put your hand inside the vagina and up along the baby's back.



Move your hand around the baby's body, bend the baby's arm, and grasp his hand. Pull the hand across the baby's chest and out of the birth opening. This is very difficult to do. Be careful not to push the collarbone inward as this can cause injury and bleeding inside the baby.



The baby can now be born easily. Grasp the baby by the body (not the arm) and help him come out.



If none of these methods work, it is better to break the baby's collarbone to help him out than to let him die. Reach in with your finger, hook the baby's collarbone, pull up toward the baby's head, and break it. You will need to use a lot of pressure.

WARNING! **Never jerk on the baby's neck, or bend it too far.** You could tear the baby's nerves.

Babies who get stuck usually have a hard time breathing when they come out. Be ready to help the baby breathe (see page 241).

Deliver the baby's body and give the baby to the mother

After the shoulders are born, the rest of the body usually slides out easily. Remember that new babies are wet and slippery. Be careful not to drop the baby!

Dry the baby immediately with a clean cloth and if everything seems OK, put the baby on her mother's belly, skin to skin. This is the best way to keep the baby warm. You do not have to wait until the placenta comes out or the cord is cut. Cover the baby with a clean blanket, and make sure the baby's head is covered with the blanket or a hat.

Babies should breastfeed soon after birth. A baby may show she is ready to feed by moving her mouth or making smacking noises. Help the mother begin feeding.

After delivery, a baby should stay skin to skin with her mother for at least an hour without being separated.

Stool in the amniotic waters (green or yellow)

If the waters were green or yellow, it means the baby passed stool in the womb. If stool gets into the baby's lungs it can damage them. You can tell if the baby is in danger of this happening by the baby's condition when he is born.

If the baby is in **good condition** you can give him directly to his mother's arms:

- strong (good muscle tone, not floppy)
- breathing or crying
- heartbeat over 100 beats per minute

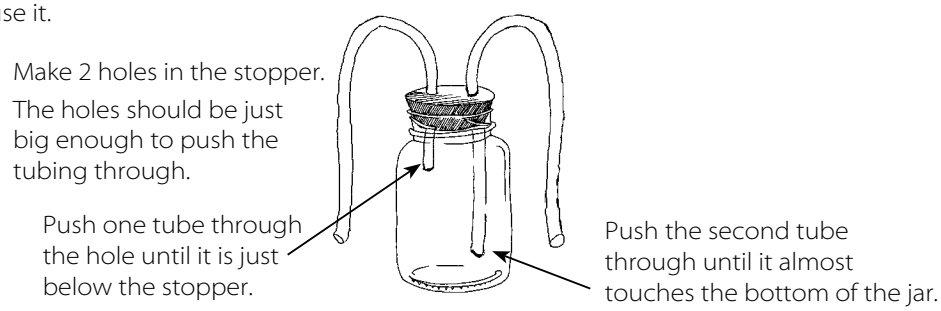
If the baby **needs help**, you must suction his mouth and throat before he breathes:

- weak and floppy, like a doll
- not breathing
- heartbeat less than 100 beats per minute

The best way to suction the baby is to use a suction trap, but you can also use a bulb syringe (see the next page). Whatever you use must be sterile (see page 59 for how to sterilize tools).

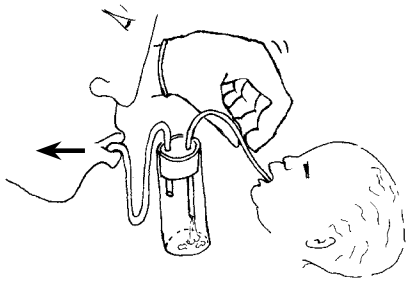
To make a suction trap

You need a small jar, a stopper that fits snugly into the top of the jar, and some very thin, soft tubing that can be cleaned easily. Sterilize the tubing before and after you use it.


Make 2 holes in the stopper. The holes should be just big enough to push the tubing through.
Push one tube through the hole until it is just below the stopper.
Push the second tube through until it almost touches the bottom of the jar.

To use a suction trap

First put the tube that goes to the bottom of the jar in the baby's mouth. It should go no more than 10 centimeters (4 inches) down the baby's throat.

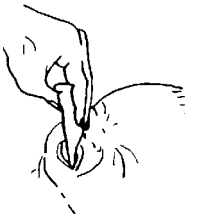


Suck on the other tube while you wiggle the first tube around in the baby's mouth. The fluid in the baby's mouth or nose will go into the jar but not into your mouth. After you clean the baby's mouth, clean the baby's nose in the same way.

To use a bulb syringe

Sterilize a bulb syringe before you use it. Suction the mouth and throat until they are clear of mucus. Then suction the nose. (Practice using the syringe to suck up water before you use it at a birth.)

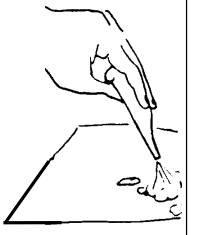
Squeeze the syringe.



Gently put the syringe in the baby's throat.

Release the syringe as you wiggle it around.

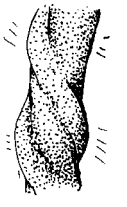
The bulb will suck up mucus. (Do not squeeze the syringe while it is in the mouth.)



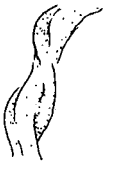
Squeeze out the mucus.

Cut the cord when it turns white and stops pulsing

Most of the time, there is no need to cut the cord right away. Leaving the cord attached will help the baby to have enough iron in his blood. It will also keep the baby on his mother's belly where he belongs.



Wait!



OK to cut.

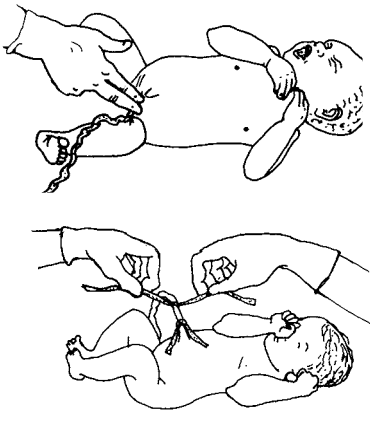
When the baby is just born, the cord is fat and blue. If you put your finger on it, you will feel it pulsing. This means the baby is still getting oxygen from his mother.

When the placenta separates from the wall of the womb, the cord will get thin and white and stop pulsing. Now the cord can be cut, usually after about 3 minutes. (Some people wait until the placenta is born before cutting the cord. This is a healthy custom.)

How to cut the cord

Use a sterile string or sterile clamp to tightly tie or clamp the cord about 2 finger widths from the baby's belly. (The baby's risk of getting tetanus is greater when the cord is cut far from his body.) Tie a square knot.

Put another sterile string or clamp a little farther up the cord.

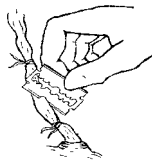


To tie a square knot

the 1st loop of a square knot

the 2nd loop of a square knot

Right over left, left over right, makes a square knot secure and tight.



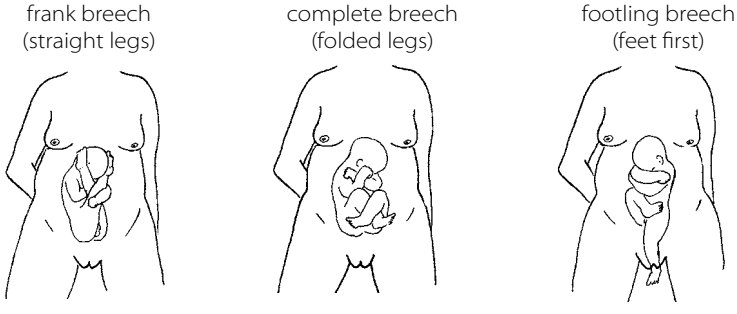
Cut the cord between the strings or clamps with a sterile knife, razor blade, or scissors. (Anything that is sharp enough to cut the cord will work, as long as it has been sterilized using one of the methods on pages 59 to 67.)

Leave the string or clamp on until the cord stump falls off — usually within the first week.

WARNING! **Do not put dirt or dung on the cord stump!** Dirt and dung do not protect the stump — they cause serious infections. Protect the stump by keeping it clean and dry.

Baby is breech

There are 3 breech (bottom down) positions:



A frank breech is the easiest and safest kind of breech to deliver.

Dangers of breech births

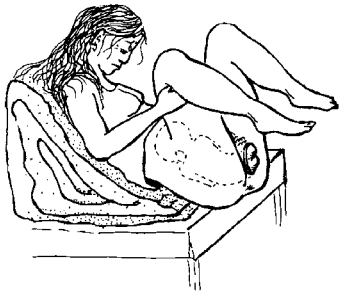
Breech births can go well, but they are often dangerous for the baby. They are especially dangerous for a first baby, because no one knows if the mother's pelvis is big enough for birth.

There are serious dangers of breech birth:

- The cord can more easily prolapse when the waters break (see page 176).
- The baby's head can get stuck at the cervix. This can happen if the baby's body, which is usually smaller than the head, comes through the cervix before the cervix is fully open.
- The baby's head can get stuck at the mother's pelvis after his body has slipped through. If the cord gets pinched between the baby's head and the mother's pelvis, the baby can die or be brain damaged from lack of air.

If possible, breech babies should be born in a medical center, especially footling breech. If medical help is too far, or if a birth in a medical center is not possible, make sure a midwife who is experienced with breech is there to help at the birth.

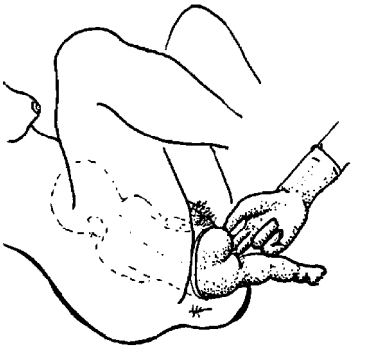
Delivering a frank or complete breech



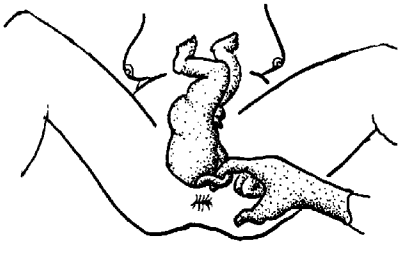
Do not let the mother push until you are sure that her cervix is completely open. Even after she has a strong urge to push, she should wait through a few more contractions to be sure.

When the cervix is open, encourage the mother to push in a way that feels right to her. Encourage her to give good, strong pushes. The baby's bottom and belly will usually be born without any help.

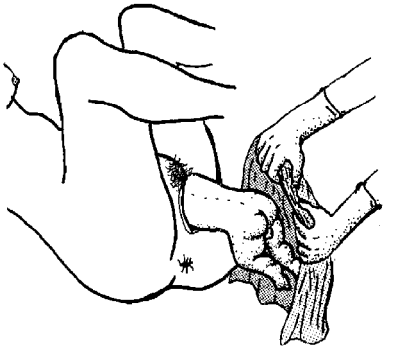
The legs usually come out by themselves. If they are not coming, put your fingers inside the mother and gently pull down the legs. Do not pull on the baby.



Loosen the cord a little by gently pulling a bit of it out of the vagina. In general, do not touch the cord much.

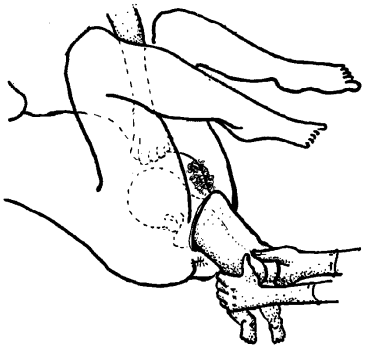


Wrap the baby in a clean blanket or cloth to keep her warm. If the baby gets cold, she may try to take a breath inside the mother, and her lungs will fill with fluid. Keep the blanket on the baby for the rest of the delivery. (The rest of the drawings in this section do not show the blanket so you can see the baby's position better.)

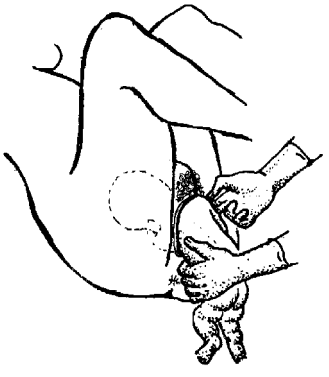


You may want to have a helper put pressure on the mother's pubic bone (not her belly). This is to keep the baby's head tucked in, not to push the baby out. Carefully move the baby's body down to deliver the top shoulder. Hold the baby by the hips or below.

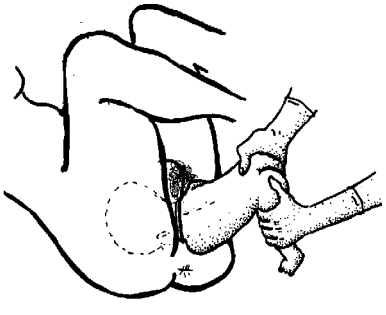
Be careful. Pressure on the baby's back or belly can injure her insides.



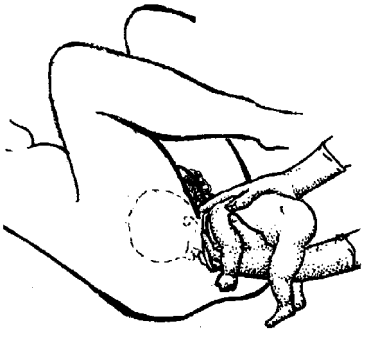
If the top shoulder does not come out, you may need to put your fingers inside the mother's vagina to bring the arm out. Try to grasp the arm by feeling the shoulder, and then following it down. Pull the arm across the chest by pulling gently on the elbow. Deliver the top shoulder.



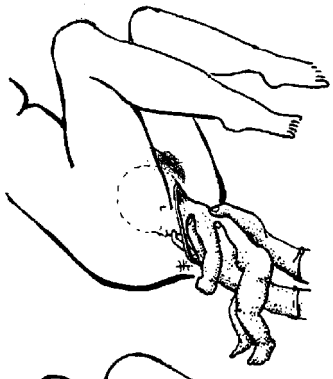
Lift the baby gently to deliver the bottom shoulder and then gently deliver the bottom arm.



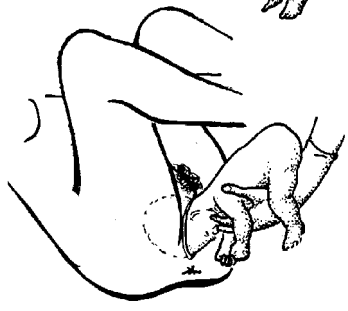
The baby must now turn to face the mother's bottom. Hold the baby with your arm, and put one finger in the baby's mouth. Put your other hand on the baby's shoulders, with one finger on the back of the baby's head to keep it tucked in. The baby's chin should stay close to her chest so it can fit easily through the mother's pelvis.



Lower the baby until you see the hair on the back of her head. **Do not pull hard! Do not bend the neck — it can break!**

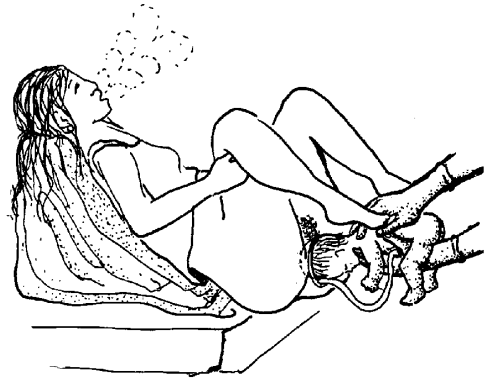


Keep the baby's head tucked in while you raise the body to deliver the face. Let the back of the head stay inside the mother.



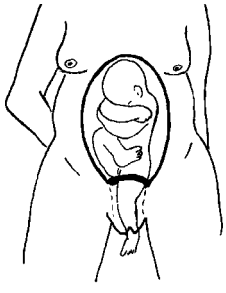
The mother must relax, stop pushing, and blow (blowing will help her stop pushing). Let the head come out as slowly as possible.

The back of the head should be born slowly. If it comes too fast, the baby could bleed in the brain and be brain damaged or die.



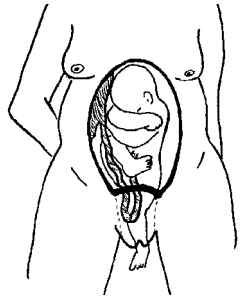
Delivering a footling breech

A footling breech is more dangerous than the frank or complete breech.



Footling breech babies have a very high chance of prolapsed cord (the cord coming out before the baby).

It is much safer for a footling breech to be born in a medical center. Try to slow the labor (see page 207). Put the mother in a knee-chest position and get medical help.



If you cannot get to a hospital, keep the mother from pushing until you are sure that the cervix is fully open (see pages 339 to 340). Ask the mother to lie down — the cord may be less likely to prolapse. Use the instructions on pages 216 to 218 for delivering a frank or complete breech.

Delivering twins

Dangers of twin births

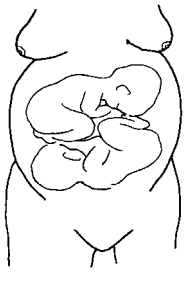
Twin births may go well, but they can be more difficult or dangerous than a single birth. Twins are more than 3 times as likely to die than other babies, for these reasons:

- Twins are more likely to be born early, and to be small and weak.
- The cord (especially of the second twin) is more likely to prolapse.
- The placenta of the second twin may start coming off the wall of the womb after the first twin is born. This can cause dangerous bleeding.
- The mother is more likely to bleed heavily after the birth.
- If the second twin is not born soon after the first, the womb may get an infection. The second twin may also get an infection.
- One or both twins are more likely to be in a difficult or impossible birth position. Or the twins may get in each other's way, making it impossible for them to be born.

For these reasons, we suggest that twins be born in a medical center. If the journey is very difficult, feel the mother's belly to find out the position of the babies. This will help you know what problems to expect at the birth.

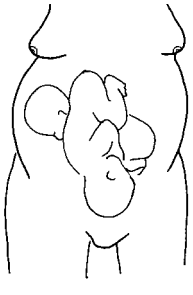
When both babies are sideways, they cannot be born through the vagina.

It is very dangerous to try to deliver them at home.



When one head is down, it is a little less dangerous to deliver at home.

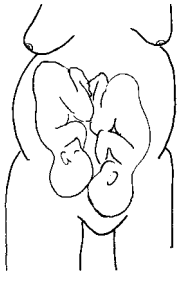
If the head-down baby is born first, the other baby may turn.



It is even better if both babies are up and down.

But a breech twin will have the same dangers as all breech babies.

It is best if both babies are head down — but it is still more dangerous than a single birth.



Delivering twins

If you deliver twins at home, make sure there are at least 2 skilled midwives at the birth.

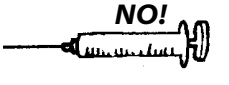
1. Deliver the first baby as you would any single baby.
2. Cut the first baby's cord, and tightly clamp or tie the end that is coming out of the mother. Twin babies sometimes share a placenta, and the second baby could bleed through the cord of the first.
3. After the first baby is born, feel for the position of the second baby. If he is lying sideways, see below.
4. The second baby should be born within 15 to 20 minutes, but might take longer. Deliver him as you would any other baby.

Possible problems when delivering twins

No contractions within 2 hours of the birth of the first twin

Encourage the labor to start again by letting the first baby breastfeed. If the baby will not breastfeed, massage the mother's nipples as if you were removing milk by hand (see page 285). If the second baby is head or bottom down, try breaking the waters. But do not break the waters if the second baby is sideways.

If these methods do not start labor, seek medical help as soon as you can. **Do not give medicines to get labor started again.**



If the second baby is not born in 2 hours, the placenta may start coming off the womb, the cervix may start to close, or the second baby and the womb may get an infection.

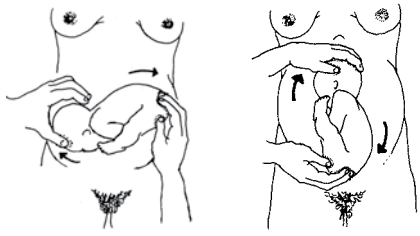
The second baby is sideways

If medical help is close, go there now. If it is too far away, and you have experience turning babies, try the following:

1. Try to turn the baby's head down (see page 369).

2. If you cannot move the baby to a head-down position, try to move her to the breech position.

3. If you cannot move the baby to either of these positions, go to a medical center. The baby will need to be born by cesarean surgery.



The mother bleeds before the second twin is born (or the first placenta is born before the second twin is born)

Bleeding after the birth of one twin and before the second twin may mean that there is an early separation of the placenta (see page 184). **Get the second baby out as fast as you can.**

Stimulate the nipples, break the bag of waters, and ask the mother to push very hard.

Baby is very small or more than 5 weeks early

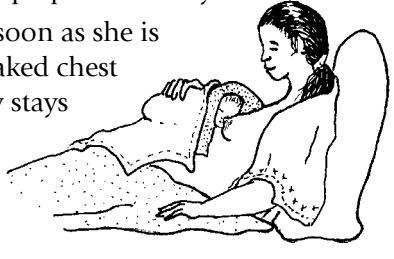
A baby born early or small may have problems, such as:

- a difficult or impossible birth position (like a sideways position).
- a softer skull, which means she can easily be injured during the birth.
- difficulty keeping herself warm after the birth.
- difficulty breathing and breastfeeding.

For these reasons, it is best for small or early babies to be born in a medical center. If they are born at home, it is important that they get medical care as soon as possible.

If you must deliver small or early babies at home, prepare carefully:

Have many warm blankets ready for the baby as soon as she is born. Dry the baby and place her on the mother's naked chest and cover them both in blankets. Remember, a baby stays warm best on the mother's belly. Keep the baby skin to skin with the mother. The baby should wear only a diaper and a hat. This is also a good way to care for a baby born on the way to a medical center.



Small babies should not be bathed for a few days after delivery because they can get cold. See page 256 for how to care for babies that are early or small after they are born.

CHAPTER 13
The birth of the placenta: stage 3 of labor

In this chapter:

Check the mother's physical signs 223

Bleeding after birth 224
Watch for heavy bleeding before the placenta comes 226
Watch for signs the placenta has separated 226
Help the mother push out the placenta 227
Check the placenta and cord 233
Watch for bleeding after the placenta is born 236
Womb stays soft 236
Torn vagina 239
Shock 239

What to do for the baby 240

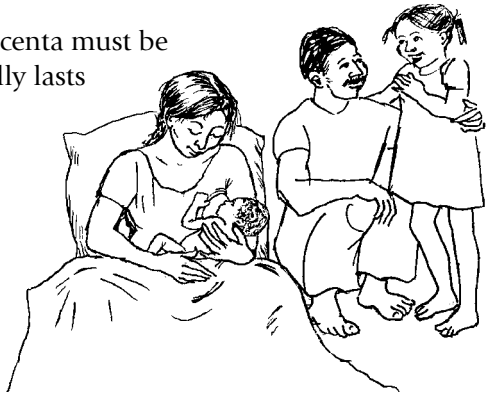
Keep the baby warm and dry 240
Check the baby's health 240
Breathing 241
Heartbeat 243
Muscle tone 244
Reflexes 244
Color 244
Help the baby breastfeed 245

The birth of the placenta: stage 3 of labor

CHAPTER 13

After the birth of the baby, the placenta must be born. This is stage 3. Stage 3 usually lasts less than 1 hour.

This can be a wonderful and exciting time for the family. Watch closely to be sure that everything is healthy and normal. But be sure to give the mother and family time to be with the new baby.



If you have a helper, one of you can help the mother while the other one watches the baby. If you are working alone, you will need to decide whether to care for the mother or the baby first.

- If the mother is healthy, and she is not bleeding much, care for the baby first.
- If the mother has risk signs, care for her first, and the baby later.
- If the mother and baby are both in trouble, help the mother first, even though it may feel like a difficult choice.

Check the mother's physical signs

After the birth, you must watch the mother for signs of infection, pre-eclampsia, and heavy bleeding (which can lead to shock). Check the mother's blood pressure and pulse every 30 minutes. Check her temperature every 4 hours. Check more often if you see warning signs.

Bleeding after birth

The main risk to the mother during stage 3 is heavy bleeding.

Normally, the mother pushes the placenta out soon after the birth. Then the womb contracts (tightens and shrinks) to stop the bleeding from the place where the placenta was attached. If the mother is not bleeding or having other health problems, the midwife can watch and wait while the family gets to know their new baby.

But if the mother begins to bleed, the midwife must take action. Heavy bleeding can cause the mother to be sick or very tired after the birth or can kill her. Around the world, very heavy bleeding after birth is one of the most common causes of death for women.

Most bleeding after birth comes from the place the placenta was attached. During pregnancy, the mother's blood vessels send blood through the wall of her womb to the placenta. As long as the placenta is attached to the wall of the womb, the mother will not bleed. When the placenta is born, the blood vessels can bleed too much if the womb does not quickly contract and squeeze them closed.

If the placenta has separated, even partially, but is still in the womb, it can hold the womb open. Even a small piece of placenta or a blood clot left inside the womb can keep it open in this way. When the womb is open, the mother's blood vessels continue to pump blood out and the woman will quickly lose blood. So to stop bleeding after birth, you must be sure the womb is empty and help it to squeeze into a small, hard ball.

The way you help depends on whether the woman has given birth to the placenta. **After the placenta is born**, rubbing the womb is a good way to contract the womb and stop the bleeding. Many women need their wombs rubbed to help them contract.

Rub the womb

The womb will usually contract and stop bleeding when it is stimulated by firm rubbing. Put your hand on top of the womb and squeeze while you move the same hand in a circle. The womb should get firm, and should be in the center of the belly, not off to the left or right. Check the womb every 1 or 2 minutes for a while. If it gets soft again, rub it until it contracts again. Teach the mother and a family member how to rub the womb so it stays firm.

Medicines to help the womb contract

Medicines can also help the womb contract and push out anything left inside. Some medicines can be given before or after the birth of the placenta, such as oxytocin and misoprostol. But another medicine, ergometrine, causes 1 strong contraction. You cannot give ergometrine until after the placenta is born and the womb is empty, or else it can cause the cervix to close with the placenta trapped inside. See page 231 for more on medicines to stop bleeding.

"Active management" of stage 3

Throughout this book we suggest that you care for women in the ways that medical science has proven will save the most lives and cause the least harm.

But medicine is not simple. Experienced, skilled health workers can have conflicting ideas about how to keep people healthy. And lifesaving tools or medicines are not available in many parts of the world. Here is an example:

International medical groups now recommend that midwives and doctors "actively manage" the 3rd stage of labor. What they mean by active management of the 3rd stage is:

1. give oxytocin or other medicines (see page 228) to every woman immediately after she gives birth,
2. guide every woman's placenta out shortly after the birth, and
3. rub the womb after the placenta is born.

Medical studies of women giving birth in hospitals have shown that active management reduces the number of women who bleed heavily after birth. If the health authority in your community recommends that you manage birth in this way, we suggest that you do so.

In this book, though, we describe how to manage the 3rd stage only after a problem arises. We do this for a few reasons:

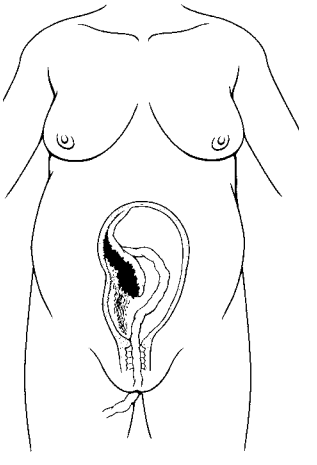
- Most midwives do not have oxytocin, or if they do, only have a little. Also, many midwives do not have a big supply of sterile needles to inject oxytocin. These midwives may need to save the little oxytocin they have for when someone is already bleeding.
- Most women do not bleed too much after birth. Not every woman needs oxytocin, and many women do not want to be given a medicine that they do not need.
- Guiding the placenta out by hand is risky. You can accidentally break the cord or even pull the womb out of the woman's body. If you work in a hospital and have access to surgery in an emergency, pulling out the placenta may prevent bleeding. But if you are far from emergency care, guiding the placenta out by hand may cause problems that you are unable to solve.

Watch for heavy bleeding before the placenta comes

When the placenta separates from the womb, there is usually a small gush of blood. This is normal. Even bleeding a cup or more can be OK, as long as it stops quickly. But constant bleeding while the placenta is still inside is not normal. Bleeding too much after birth is the main cause of death in childbirth.

There are 3 ways a woman can lose too much blood (hemorrhage) after childbirth:

- **Fast, heavy bleeding.** The mother may lose a lot of blood at once, or blood may flow heavily for several minutes. Often, she will quickly feel faint and weak. **This is a severe emergency.**
- **A slow trickle.** This kind of bleeding is harder to notice. But any steady bleeding, even just a trickle, means the mother is in danger.
- **Hidden bleeding.** This bleeding cannot be seen because blood collects in the womb or vagina. This bleeding is also extremely dangerous and is easy to miss. When there is hidden bleeding, you may not see the blood, but the woman may feel faint and weak. Her pulse will speed up or slow down, and if she bleeds for long, her blood pressure will drop. Her womb may also rise in the belly as it fills with blood.



Most bleeding after birth comes from the place where the placenta was attached to the womb. This blood is bright or dark, and usually thick. Usually, if the woman is bleeding before the birth of the placenta, part of the placenta has separated from the womb, and part of it is still attached. The placenta holds the womb open, so it cannot contract and stop the bleeding.

Sometimes, bleeding comes from a torn vagina, a torn cervix, or a torn womb. Usually this bleeding comes in a constant, slow trickle. The blood is usually bright red and thin.

Heavy bleeding, or feeling faint or dizzy after a birth, are not normal. You must act to stop the bleeding. Usually, bleeding will stop when the placenta comes out. If you cannot find the cause of bleeding, get medical help.

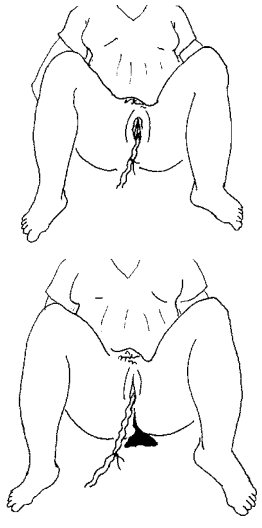
Watch for signs the placenta has separated

The placenta usually separates from the womb in the first few minutes after birth, but it may not come out for some time. Signs that the placenta has separated from the womb are:

- **A small gush of blood comes from the vagina.** A gush is a handful of blood that comes out all at one time. It is not a trickle or a flow.

- **The cord looks longer.** When the placenta comes off the wall of the womb, it drops down closer to the vaginal opening. This makes the cord seem a little longer, because more of it is outside the mother's body.
- **The womb rises.** Before the placenta separates, the top of the womb is a little below the mother's navel. After the placenta separates, the top of the womb usually rises to the navel or a little above.

If 30 minutes have passed since the birth and there are no signs that the placenta has separated, be sure the baby has started to breastfeed. Breastfeeding causes contractions, and will help the womb push the placenta out. If the placenta does not come out after breastfeeding, ask the mother to urinate. A full bladder can slow the birth of the placenta. If the placenta still does not come out, see below for how to help the mother push it out.

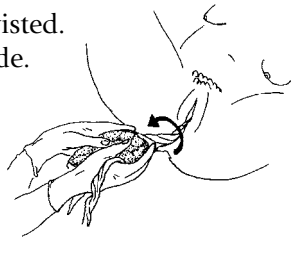


The placenta has probably separated when there is a small gush of blood and the cord looks longer.

Help the mother push out the placenta

If the placenta does not come by itself after an hour, or if the mother is bleeding heavily, help her deliver it.

1. Be sure the mother is already breastfeeding. If she is not bleeding too heavily, she should try to urinate.
2. Put on clean gloves.
3. Have the mother sit up or squat over a bowl. Ask her to push when she gets a contraction. She can also try to push between contractions. Usually the placenta slips out easily.
4. The membranes (or bag) that held the waters and the baby should come out with the placenta. If some of the membranes are still inside the mother after the placenta comes out, hold the placenta in both hands. Turn it slowly and gently until the membranes are twisted. When they are twisted, they are less likely to tear inside. Then **slowly** and **gently** pull the membranes out.



5. Feel the mother's womb. It should be about the size of a grapefruit or a coconut, or smaller, and it should feel hard. If it is not small and hard, see page 236.

Give oxytocin

If the the mother cannot push out the placenta by itself or any time the mother is bleeding very heavily, give oxytocin to help her womb contract so the placenta can come out. Before you give oxytocin, gently feel the mother's belly to be sure there is not a second baby in the womb.

To help the placenta come out

- inject 10 Units oxytocin.....in the side of the thigh muscle

You can give 10 more Units of oxytocin after 10 minutes.
(See page 345 for how to safely give an injection.)

or

- give 600 mcg (micrograms) misoprostol.....by mouth, 1 time only

Guide the placenta out by the cord

If the mother is bleeding a lot and cannot push the placenta out herself, the midwife can **gently** guide the placenta out by the cord.

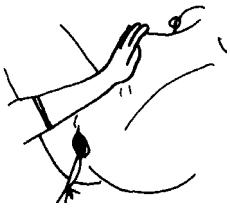
If the mother is not bleeding, and there is no danger, do not pull on the cord. Only remove the placenta by the cord if there is an emergency.

WARNING! **Pulling on the cord is dangerous!** If the placenta is still attached to the womb, the cord may break or you may pull the woman's womb out of her body. If the womb is pulled out, the mother may die. **Only guide the placenta out by the cord if you know that the placenta has separated.**

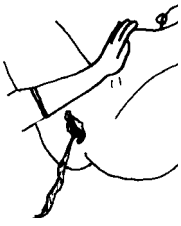
1. Check if the placenta has separated by gently pushing the womb upward from just above the pubic bone.

Find the bottom of the womb. Push the womb up and watch the cord.

If the cord moves back up into the vagina, the placenta may be attached to the womb.



If the cord stays in the same place, the placenta is probably not attached. It is OK to guide the placenta out.



2. Guard the womb. Put one hand on the mother's belly, just above the pubic bone. Use just a little pressure to keep the womb in place.
3. Wait for a contraction. When a contraction comes, gently pull the cord downward and outward. Pull steadily and smoothly. A sudden or hard pull can tear the cord. Ask the mother to push while you are guiding the placenta out.
4. If the womb seems to move down as you pull the cord, STOP. If you feel the cord tearing, STOP. If the mother says that the pulling hurts, or if the placenta does not come out, STOP. The placenta may still be attached. Wait until the next contraction and try again.
5. Gently pull the cord until the placenta comes out.
6. Rub the womb (see page 224).

If the placenta still does not come out, and the mother is still bleeding, or if she feels faint or weak or shows other signs of shock (see page 239), she is in great danger. Get medical help right away.

On the way to a medical center, treat the mother for shock (see page 239).

Take out the placenta by hand

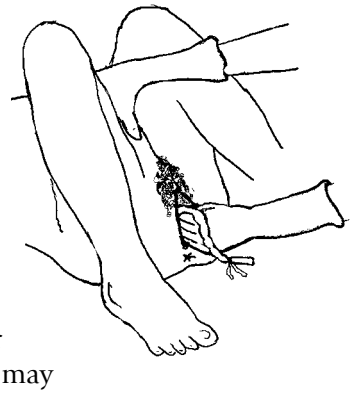
If you think the woman will bleed to death before you can get to a medical center, you may need to put your hand inside the womb to loosen the placenta and take it out.

WARNING! **Taking out the placenta by hand is very dangerous.** It can cause serious infection, or tear the cervix, the placenta, or the womb, and cause worse bleeding. Taking the placenta out by hand is very painful for the mother, and can easily cause her to go into shock (see page 239). Do not take the placenta out by hand unless it is the only way to save a mother's life.

1. Quickly scrub your hands and arms up to the elbows with soap and boiled water. Splash your hands and arms with alcohol or betadine if you have it. Put on sterile gloves, long ones if you have them. Then do not touch anything except the cord and the inside of the mother.

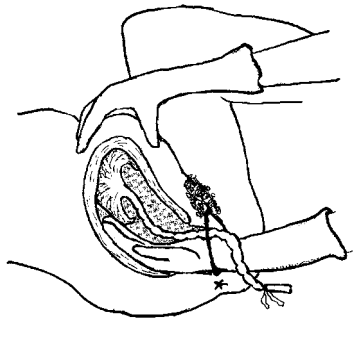
2. Put one hand on the cord to hold it steady. With your other hand, follow the cord up into the mother's vagina — you will have to fit your whole hand inside. The placenta may be detached but just sitting in the vagina or in the bottom of the womb. If so, take the placenta out, rub the womb until it is hard, and give an injection of 10 Units of oxytocin.

3. If the placenta is still partly stuck to the wall of the womb, you may need to reach inside and peel it off the womb wall with your fingers.



   Move your outside hand up to the mother's belly to support her womb. With your inside hand, keep your fingers and thumb close together, making a cone shape. Gently follow the cord up into the womb.

   Find the wall of the womb and carefully feel for the edge of the placenta with your fingers. This may be very painful to the mother. Have someone support her, and ask her to take deep breaths.



   Pry the edge of the placenta away from the womb wall using the side of your little finger. Then carefully peel the rest of the placenta off by sliding your fingers between the placenta and the womb. (It feels a little like peeling the skin off an orange or other thick-skinned fruit.) Bring the placenta out in the palm of your hand. Be careful not to leave any pieces or clots inside.

4. Give medicine to stop the bleeding.

To stop bleeding from the womb after the placenta is out

- inject 10 Units oxytocin.....in the side of the thigh muscle

  You can give this dose again in 20 minutes if bleeding does not stop.

  or

- inject 0.2 mg ergometrine.....in the side of the thigh muscle

  or

- give 0.2 mg ergometrine pills.....by mouth

  You can give ergometrine every 2 to 4 hours for severe bleeding, or every 6 to 12 hours for less severe bleeding, but continue to give the medicine until bleeding has stopped and the womb is hard, usually about 48 hours.

  Pills do not work as quickly as the injections.

  Do not give ergometrine to a woman with high blood pressure.

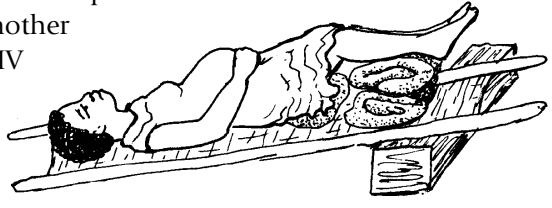
  or

- give 600 mcg (micrograms) misoprostol.....by mouth OR in the rectum

  The woman should dissolve tablets against her cheek or under her tongue, and then swallow any remaining parts. If she is feeling nauseous, insert the pills into her rectum. Wear a glove.

5. Firmly rub the womb or use 2-handed pressure (see page 237) to stop the bleeding.

6. Go to a hospital as soon as possible. If the mother has signs of shock, keep her head down, and her hips and legs up (see page 239). If the mother has lost a lot of blood, start an IV if you can (see page 350). If you cannot give an IV, give rehydration drink (see page 160) or rectal fluids (see page 342). She is also in great danger of getting an infection.



To prevent infection if it will take more than 1 hour to get medical help

- give 1 g amoxicillin.....by mouth, 1 time only

  and

- give 1 g metronidazole.....by mouth, 1 time only

You will need to give more antibiotics if the woman starts to show signs of infection (see page 271).

When the womb comes out with the placenta

When you see this, the womb has turned inside-out.

Rarely, the womb turns inside out and follows the placenta out of the mother's body. This can happen if someone pulls on the cord before the placenta has separated from the womb wall, or if someone pushes on the womb to get the placenta out. It can also happen by itself — even if no one does anything wrong. An inside-out womb can bleed heavily, so work quickly but calmly.

What to do

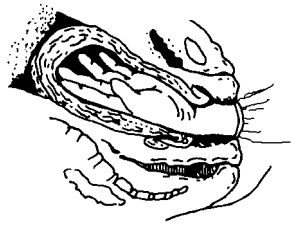
1. Scrub your hands and arms up to the elbows (see page 53) and put on sterile gloves.

2. Quickly pour antiseptic solution (like povidone iodine) over the womb if you have any.

3. Gently but firmly put the womb back through the vagina and cervix into its normal position. If you cannot push it back up, you may have to roll it up with your fingers.

Push the part of the womb closest to the cervix in first, and work your way along to the top of the womb, pushing that part in last. Do not use too much force. This will be painful for the mother. Reassure her and have her breath deeply and try to stay relaxed.

If you cannot push the womb back into the right place, put it into the vagina and take the woman to a medical center. Treat her for shock (see page 239).

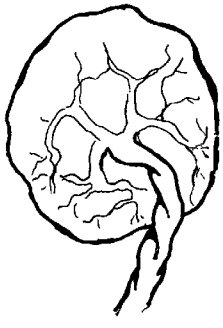


4. After the womb is back inside, rub it to make it hard. You may need to use 2-handed pressure to stop the bleeding (see page 237). Give oxytocin, ergometrine, or misoprostol to stop the bleeding (see page 231).

5. The mother should lie on her back with a pillow, blankets, or other padding under her hips. Give her antibiotics to prevent infection (see page 231).

After putting the womb back into the woman's body, get medical help.

Check the placenta and cord



Whether the placenta comes out by itself or you guide it out, you should check to see that it is all there.

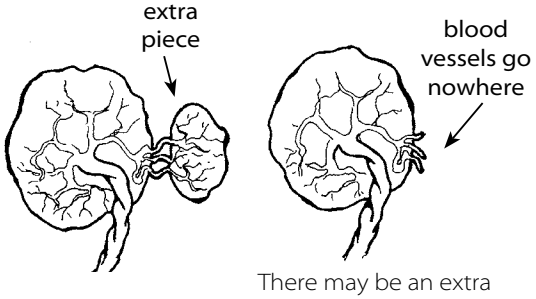
Usually the placenta comes out whole, but sometimes a piece of it is left inside the womb. This can cause bleeding or infection later. To see if everything has come out, check the top and bottom of the placenta, and the membranes from the bag of waters. Also check the cord to see if it is normal.

Wear gloves when you check the placenta and membranes. This will protect you from germs in the mother's blood.

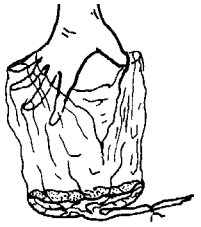
Top of the placenta

The top of the placenta (the side that was facing the baby) is smooth and shiny. The cord attaches on this side, and then spreads out into many deep-blue blood vessels that look like tree roots.

Sometimes, but very rarely, there is an extra piece attached to the placenta. Check for blood vessels trailing off the edge of the placenta and going nowhere. This may mean that an extra piece is still inside the mother.



There may be an extra piece inside the mother.

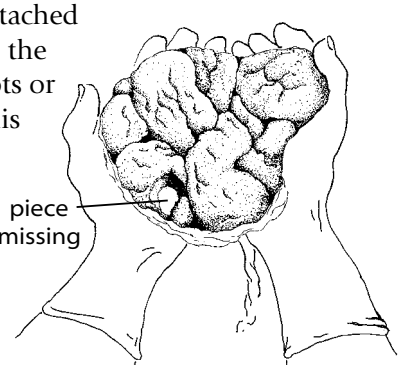


Membranes

You can see the membranes best on the top of the placenta. They will be broken open, but check to see if they are all there.

Bottom of the placenta

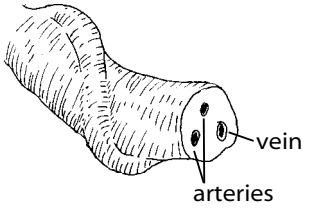
The bottom of the placenta (the side that was attached to the womb wall) has many lumps. Sometimes the bottom of the placenta will have hard white spots or dark patches. This is not dangerous. To check this side, cup your hands and hold the placenta so that all the lumps fit together. Look for a hole or a rough edge where a piece might be missing. This piece may still be inside the mother.



Carefully look at every placenta after every birth just as you would carefully look at every baby. In this way, you will learn what is normal, and be able to quickly recognize when something is not normal.

Cord

If you look carefully at the end of the cord, you should see 3 holes — 1 large hole and 2 small holes. These are the arteries and the vein (or vessels) that carried the baby's blood to and from the placenta.



Some cords have only 2 vessels, and some babies with 2-vessel cords have problems later on. A doctor should check these babies.

A piece of placenta is left inside the womb

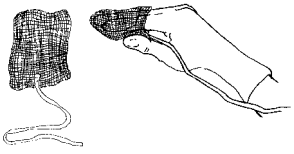
If a piece of the placenta or membranes is missing, it may still be in the womb.

Help the mother push the piece out by having the baby breastfeed or by massaging her nipples as if you were removing milk by hand (see page 285). If the woman is bleeding, give oxytocin or misoprostol (see page 228).

If the piece does not come out, get medical help.

If the woman is bleeding so heavily that she will probably die before getting help, try to take the pieces out of the womb yourself.

1. Scrub and put on sterile gloves.
2. Fold a piece of sterile gauze over your fingers. The womb is very slippery, and the gauze will help you scrape up small pieces of placenta. (Or tie a string to a strong piece of woven material like gauze, sterilize it, and keep it in your birth kit. The string will stay outside the mother so that you can easily pull the gauze out.) Be sure to use strong material that will not break apart and leave bits inside the mother's womb.

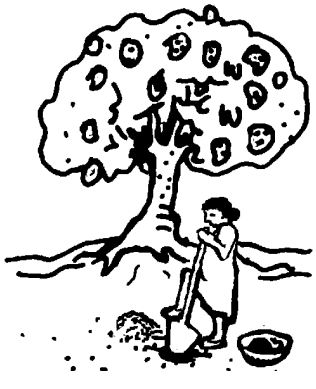


3. Reach your gauze-covered fingers into the mother's womb and try to wipe out any pieces of placenta or membranes that are inside. This will be very painful for the mother. Make sure to explain what you are doing and why you are doing it — that any pieces of tissue left in the womb will make it impossible for her womb to contract and stop bleeding.
4. After the pieces are removed, give antibiotics to prevent infection — see page 231.

   Even if you succeed in removing the piece of placenta from the womb, the mother still needs medical help. She may need a blood transfusion, and she is in danger of getting a serious infection. Take her to a medical center as soon as you can.

What to do with the placenta

Different people do different things with the placenta. Some burn it. Some dry it to use as medicine. Some just throw it away. For many people, burying the placenta is an important ritual. In some communities, people must return to the site where their placenta is buried before they die.



Burying the placenta is also a safe way to protect the community from the germs that live inside it. If you bury the placenta, make sure to dig a deep pit to keep animals from digging it up. If you do not want to bury the placenta, burning it is another safe way to dispose of it. See page 67 for more information on protecting the community from germs that live in blood.

Watch for bleeding after the placenta is born

Womb stays soft

The most common reason a mother bleeds heavily after the birth is because the womb will not contract. Instead, the womb grows larger and feels soft after the placenta comes out.

The womb may stay soft because:

- the mother's bladder is full.
- there is a piece of placenta or membrane still inside the womb.
- the womb needs more oxytocin to make it contract.
- the womb needs more stimulation to make it contract.
- the womb is infected.

What to do

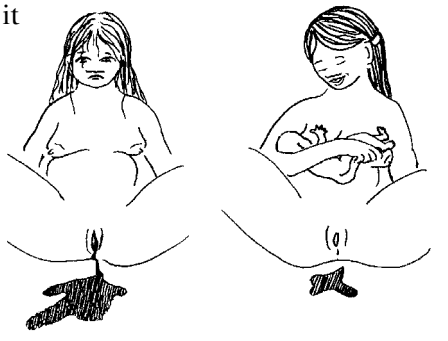
If the womb is soft, there are simple ways to make it firm:

Check the placenta again to see if there is a missing piece

A piece of placenta still in the womb can keep it from contracting completely.

Help the mother breastfeed

When the baby sucks, the mother's body makes its own oxytocin. Oxytocin makes the womb contract just as it did during labor. This helps slow the bleeding.



Breastfeeding makes the womb contract and stop bleeding.

Help the mother urinate

When the mother urinates, her womb may be able to contract more easily. If she cannot urinate after 4 hours, she may need to have a catheter (tube) put into her bladder to help her urinate. See page 352 for how to help a woman urinate and instructions for using a catheter.

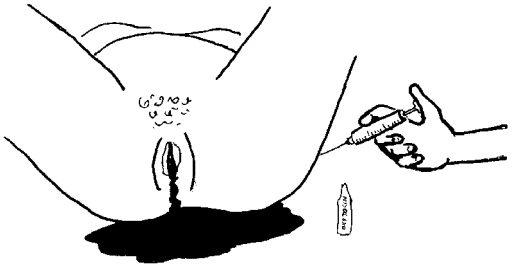
Do you feel your womb?
Yes. It's round and hard.
Check it every few hours. If you start to bleed, or your womb feels soft, rub here until it gets hard.

Rub the womb

See page 224 for how to rub the womb. Teach the mother and her family how to check the womb and how to rub it to make it contract.

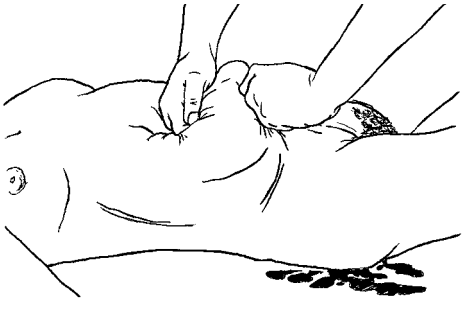
Give medicines

If rubbing the womb does not stop the bleeding, give the mother oxytocin, ergometrine, or misoprostol. See page 231.



Use 2-hand pressure on the belly

If bleeding is very heavy, and rubbing the womb does not stop the bleeding, try 2-hand pressure on the mother's belly.



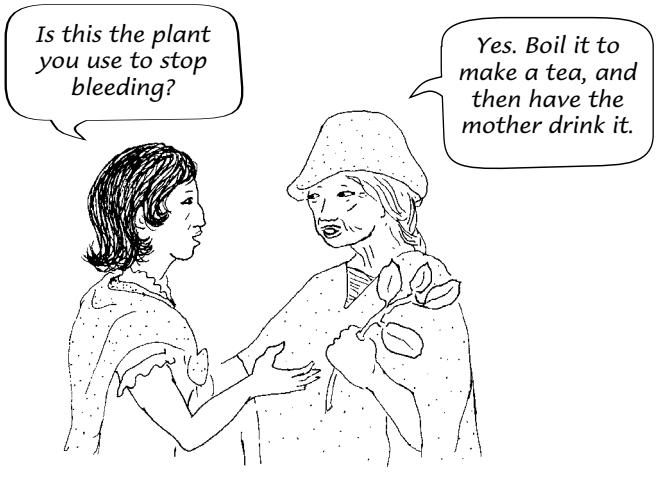
Scoop up the womb, fold it forward, and squeeze it hard.

Rub the womb until it gets hard.

Cup one hand over the top of the womb. Put your other hand above the pubic bone and push the womb towards your cupped hand. You should be squeezing the womb between your two hands.

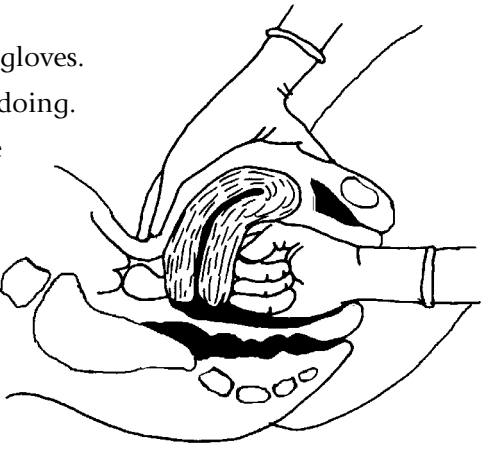
As soon as the bleeding slows down and the womb feels firm, slowly stop the 2-hand pressure.

If you know of herbs or plants that stop bleeding and are safe, you can give those now. Do not put any herbs or plants in the vagina.



Give pressure inside the vagina

If nothing else will stop the bleeding, try pressure inside the vagina.



1. Scrub your hands and put on sterile gloves.
2. Explain to the mother what you are doing.
3. Make your hand as small as possible and put it into the vagina. Move your hand to the back of the vagina, above the cervix, and make a fist. **Do not put your hand in the womb.** Move gently — your hand will hurt the mother.
4. With your other hand, hold the womb from the outside. Move the womb down towards your fist, and squeeze the womb as you move it. The womb should begin to harden.
5. When the womb feels hard, **slowly** let go of the top of the womb and take your other hand out of the vagina. Pull out any clots of blood in the vagina with your hand.
6. If you know how, start an IV (see page 350).

Watch the woman carefully until the bleeding stops

Keep the womb squeezed down until it is firm and the bleeding stops. If the mother has any signs of shock (see page 239), treat her for shock and take her to a medical center right away.

Torn vagina

If the mother is bleeding heavily and the womb is hard, she may be bleeding from a tear in her vagina. You may need to feel inside with a gloved hand to check for a tear. See pages 248 and 356 to learn about tears and how to sew them.

If you are not able to sew a tear that is bleeding heavily, try to slow the bleeding and get medical help immediately. Roll up 10 to 15 pieces of sterile gauze or another small, sterile cloth into a thick pad and push it firmly against the bleeding part of the tear. Hold it there until you get to a medical center.

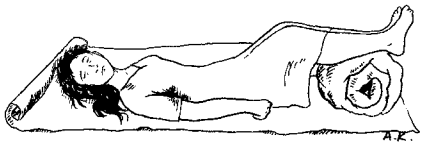
Shock

When someone bleeds heavily she may go into shock. If a mother is bleeding, before or after the placenta comes out, watch for these signs:

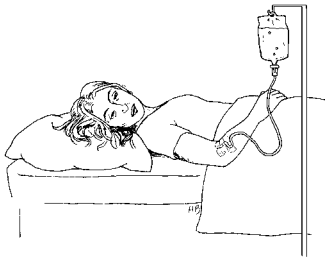
- feeling faint, dizzy, weak, or confused
- pale skin and cold sweats
- fast pulse, over 100 beats a minute, that feels thin and faint
- dropping blood pressure
- fast breathing
- sometimes loss of consciousness

A woman in shock needs help fast. You must treat her for shock to save her life.

To help a woman in shock, get medical help. On the way:



- have the woman lie with her feet higher than her head, and her head turned to one side.
- keep her warm and calm.
- give her fluids. If she is conscious, she can drink water or rehydration drink (page 160). If she is not conscious, give her rectal fluids (page 342) or an IV (page 350).
- if she is unconscious, do not give her anything by mouth — no medicines, drink, or food.



You may be able to get an anti-shock garment that uses pressure on the legs and lower body to help prevent shock in emergencies. See page 502.

Note: Women who are in poor health before giving birth are more likely to have serious problems from bleeding after the birth. Helping women eat well and avoid sickness during pregnancy is one of the best ways to prevent problems during birth.

What to do for the baby

When the baby is born, even before you cut the cord, dry him, put him on his mother's belly, and cover him with a blanket. The mother's body will keep the baby warm, and the smell of the mother's milk will encourage him to suck. Be gentle with a new baby.

Note: In many medical centers, doctors or nurses take the baby away from the mother to check his health. This is easier for the doctors and nurses, but it is not best for the baby. The baby should not be taken from the mother unless there is an emergency.

Keep the baby warm and dry

As you move the baby to the mother's belly, dry his whole body with a clean cloth or towel. Babies become cold easily and this can make them weak or sick. This is why skin to skin contact between the baby and mother is so important. Cover the baby with a clean, dry cloth. Be sure to cover his head and keep him away from drafts.

If the weather is hot, do not wrap the baby in heavy blankets or cloths. Too much heat can cause the baby to get dehydrated. A baby needs only one more layer of clothes than an adult does.

Wait a day before bathing a newborn baby so he does not get cold. Being cold can lead to illness.

Check the baby's health

Some babies are alert and strong when they are born. Other babies start slow, but as the first few minutes pass, they breathe and move better, get stronger, and become less blue.

To see how healthy the baby is, watch her:

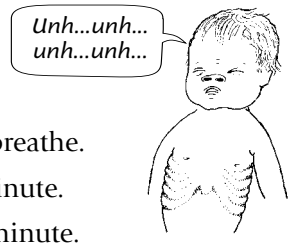
- breathing
- heartbeat
- muscle tone
- reflexes
- color

All of these things can be checked while the baby is breastfeeding.

Breathing

Babies should start to breathe normally within 1 or 2 minutes after birth. Drying the baby with a towel after birth is often enough to help the baby start breathing. Babies who cry after birth are usually breathing well. But many babies breathe well and do not cry at all.

A baby who is having trouble breathing needs help. Watch for these signs of breathing problems:



- Baby's nostrils open wide as she tries to breathe.
- Skin between the baby's ribs sucks in as she tries to breathe.
- Baby breathes very fast — more than 60 breaths a minute.
- Baby breathes very slow — fewer than 30 breaths a minute.
- Baby grunts or makes noise when she breathes.

If the baby is having trouble breathing, leave her on her mother's belly and **rub your hand firmly up and down her back**. Never hit or hurt a baby or hold her upside down to make her cry. If you have it, give oxygen to a baby who continues to have breathing problems. Watch the baby closely — if these problems do not improve, she may need medical help.

To give oxygen to a baby who is not breathing well

• give 5 liters (L) of oxygen each minute.....for 5 to 10 minutes

If you have a small oxygen mask for a baby, put it on the baby's face. If you do not have a mask, cup your hand loosely over the baby's face and hold the oxygen tube near her nose (1 or 2 centimeters away from her face).

When the baby is breathing better, turn the oxygen off slowly, over a few minutes.

Suctioning a baby who is not breathing well will probably not help and may actually make breathing more difficult.

Baby does not breathe at all

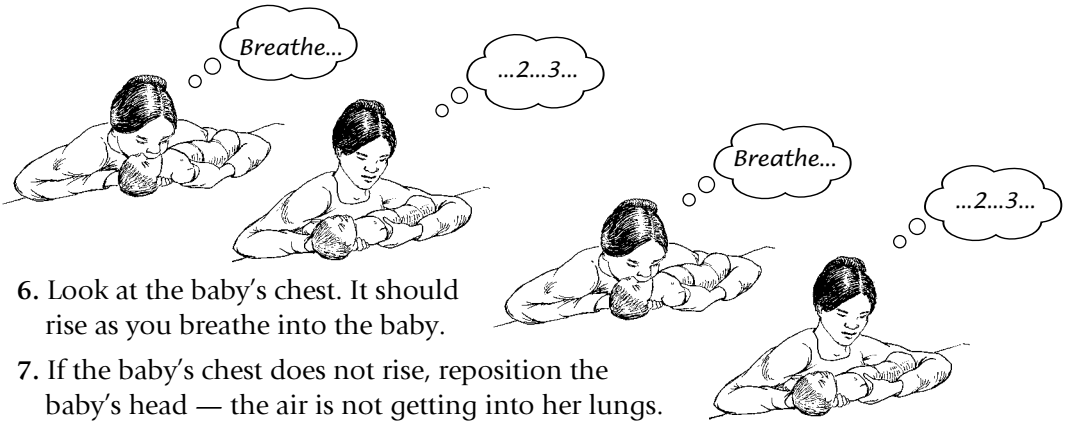
A baby who is not breathing at all one half minute after birth, even with firm back massage, or who is only gasping for breath after one minute, needs help immediately. Begin to give the baby a few breaths of air.

If she does not breathe soon after birth, she may get brain damage or die. Most babies who are not breathing can be saved. If you use the following steps, the baby will probably recover well.

Rescue breathing

1. Lay the baby on her back. She should be on a firm surface — like a firm bed, a table, a board, or the floor. Keep the baby warm. Put a warmed cloth under her, and a cloth on top of her, leaving her chest exposed.
2. Position the baby's head so that it faces straight up. This opens her throat to help her breathe. You can easily get the baby into this position by putting a small rolled-up cloth under her shoulders. Do not tilt the head back far — it will close her throat again. The baby may start breathing after you put her in this position.

3. If the baby had thick meconium at birth, quickly suction her throat (see page 213).
4. Put your mouth over the baby's mouth and nose. Or close the baby's mouth, and put your mouth over her nose.
5. Breathe into the baby using only as much air as you can easily hold in your cheeks. Do not blow. Too much air can injure the baby's lungs. Give 3 to 5 slow breaths to start. This clears fluid from the baby's lungs. Then give small, quick puffs about 3 seconds apart.



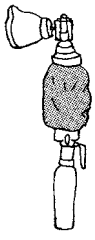
6. Look at the baby's chest. It should rise as you breathe into the baby.
7. If the baby's chest does not rise, reposition the baby's head — the air is not getting into her lungs.
8. Breathe about 30 breaths every minute. But it is not so important to get exactly the right number of breaths.
9. Check for breathing. If the baby starts to cry or breathe at least 30 breaths a minute, stop rescue breathing. Stay close and watch to be sure the baby is OK.

If the baby does not breathe, or breathes less than 30 breaths a minute, keep rescue breathing until she breathes.

WARNING! The baby's lungs are very small and delicate. **Do not blow hard into the baby's lungs**, or you can break them. Breathe little puffs of air from your cheeks, not from your chest.

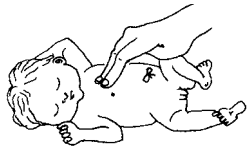
If the baby does not breathe on her own after 20 minutes of rescue breathing, she will probably not be able to. She will die. Stop rescue breathing and explain to the family what has happened.

Note: Doing rescue breathing has a small risk of passing infections between a baby and a midwife. Using gauze or a very thin piece of cloth to cover a baby's mouth may help reduce that risk. Or you may be able to buy a mask for rescue breathing. It goes over the baby's nose and mouth and the midwife breathes into it. Only use these masks if they are made specifically for this use.



You may also be able to buy a bag and mask for rescue breathing. These bags can easily give just the right amount of air to the baby, but you must be trained how to use them.

Heartbeat



A new baby's heart should beat between 120 and 160 times a minute — about twice as fast as an adult heartbeat. Listen to the baby's heart with a stethoscope, or place 2 fingers over her heart. Find out quickly how fast the baby's heart is beating to see if she needs help. Count the heartbeat for 6 seconds, then multiply by 10 (or add a "0" — if you count 12 heartbeats in 6 seconds, the baby's heart is beating 120 times a minute). After the baby has good color and is breathing well you can take the time to count the heartbeat for 1 full minute.

Listen to every baby's heartbeat so you learn what is normal and what is not.

If the baby's heartbeat is slower than 100 beats a minute, or if she has no heartbeat at all, give rescue breathing.

If her heartbeat is faster than 180 beats a minute, get medical help. She may have a medical problem with her heart.

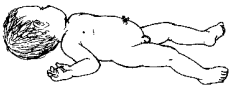
When a family loses a baby

If a baby dies, the mother, father, and other family members will have many feelings. Some feel angry, some try not to think about what happened, some are overwhelmed with grief. For many families, the death of a baby is a spiritual time, when religious practices are very important. As a midwife, you can support the family in the ways that are used in your community — and also in the ways that feel best to that family. Family members may want someone to talk to about their pain, or they may want someone to help with the work of the household.

A mother who loses a baby may also need physical help. She will have all the needs of any other woman who just gave birth. She will also have breast milk, and her breasts may become painfully engorged. See page 288 for how to relieve breast pain. There may be plants in your area that help dry up breast milk, but do not give Western medicines to do this — they are not safe.

Muscle tone

This baby has good muscle tone.



This baby is limp.

A baby who holds his arms and legs tight and close to his body, and his elbows and knees bent, has strong and healthy muscles, or good muscle tone. A limp baby has weak muscle tone. His arms and legs are loose and open. Some babies are born limp if they did not get enough oxygen before they were born. But a healthy baby should gain strength in his arms and legs within a few minutes.

The longer the arms and legs stay limp, the more likely it is that the baby is in trouble. A limp baby will not breathe well. Make sure the baby is completely dry, and place the baby skin to skin on the mother's belly to stay warm. If the baby is just a little limp, try rubbing his back and talking to him. This may help the baby wake up and try harder to breathe. If the baby is very limp, especially after the first minute, suction or wipe out his mouth and nose. He may need oxygen as well.

Reflexes

Reflexes are the body's natural reactions. For example, when you fall down, you put your hands out to catch yourself — without even thinking about it. Or, when an insect flies at your eye, you blink. Strong reflexes are a sign that the brain and nerves are working well.

At birth, a healthy baby should have these reflexes:

grimace

- **Grimace.** The baby should make a face if you suction his mouth and nose.
- **Moro reflex.** If the baby is moved suddenly or hears a loud noise, he stiffly flings his arms wide and opens his hands.
- **Sneeze.** A healthy baby will sneeze when there is water or mucus in his nose.

Moro reflex: arms open wide

If the baby does not have any of these reflexes but he is breathing and his heartbeat is more than 100 beats in a minute, get medical advice.

Color

Most babies are blue or even purple when they are born, but they quickly become a more normal color in 1 or 2 minutes.

Babies who have darker skin do not look as blue as babies with lighter skin. Look at a dark-skinned baby's hands and feet to see if they are bluish. All babies can look dusky or pale if they are not getting enough air in their lungs.

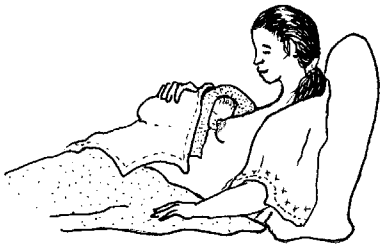
Baby is very pale or stays blue after the first few minutes

It can be OK for a baby's hands or feet to stay a little blue for many hours. But it is not normal for a baby's body to stay pale or blue for more than 5 minutes.

Most of the time, babies stay pale or blue because they are not breathing well.

Babies can also be blue:

- when they are cold.
- when they have an infection (see page 256).
- when they have heart problems.



Check the baby's temperature (see page 255) or touch him to see if he is warm. Place the newborn skin to skin on the mother and cover with a blanket or cloth. Put a hat on the baby if you have one.

If the baby is still blue or pale when he is warm, he needs help breathing. If you have oxygen, give it now. Check the baby's heartbeat and breathing. If the baby is having a hard time breathing, see page 241.

If the baby is still blue or pale after you give him oxygen, get medical help.

Help the baby breastfeed

If everything is normal after the birth, the mother should breastfeed her baby right away. She may need some help getting started. Chapter 16 is about breastfeeding, and explains what breastfeeding positions work well.

The first milk to come from the breast is yellowish and is called colostrum. Some women think that colostrum is bad for the baby and do not breastfeed in the first day after the birth. But **colostrum is very important**! It protects the baby from infections. Colostrum also has all the protein that a new baby needs.

Early breastfeeding is good for the mother and baby.

- Breastfeeding makes the womb contract. This helps the placenta come out, and it helps prevent heavy bleeding.
- Breastfeeding helps the baby to clear fluid from his nose and mouth and breathe more easily.
- Breastfeeding is a good way for the mother and baby to begin to know each other.
- Breastfeeding comforts the baby.
- Breastfeeding can help the mother relax and feel good about her new baby.
- Breast milk is the best food available for a baby.

If the baby does not seem able to breastfeed, see if he has a lot of mucus in his nose. To help the mucus drain, lay the baby across the mother's chest with his head lower than his body. Stroke his back from his waist up to his shoulders. After draining the mucus, help put the baby to the breast again.

CHAPTER 14
The first few hours after the birth

In this chapter:

What to do for the mother 247

Check the mother's physical signs . . . 247
Clean the mother's genitals, belly, and legs . . . 247
Prevent heavy bleeding . . . 248
Check the mother's genitals for tears and other problems . . . 248
Help the mother urinate . . . 249
Help the mother eat and drink . . . 250
Watch the mother's feelings about her baby . . . 251
Watch the mother for infection . . . 251
Help with breastfeeding . . . 252
Give the family some time alone . . . 252

What to do for the baby 252

General appearance . . . 253
Physical signs: breathing, heartbeat, temperature . . . 254
The baby's body . . . 256
Weight . . . 256
Length . . . 259
Head . . . 259
Ears . . . 260
Eyes . . . 260
Nose and mouth . . . 261
Neck . . . 262
Chest . . . 262
Shoulders, arms, and hands . . . 262
Belly . . . 263
Genitals and anus . . . 263
Hips and legs . . . 264
Feet . . . 265
Back . . . 265
Skin . . . 265
Color . . . 266
Baby has birth defects . . . 266
Immunizations given at birth . . . 267

Clean up and answer the family's questions 267

The first few hours after the birth

CHAPTER 14

After the birth of the placenta, the mother's body should start to recover from labor. The baby should breathe normally and start to keep herself warm.

The midwife should stay for a few hours after the birth to make sure the mother and baby are healthy, and to help the new family to eat and rest.

What to do for the mother

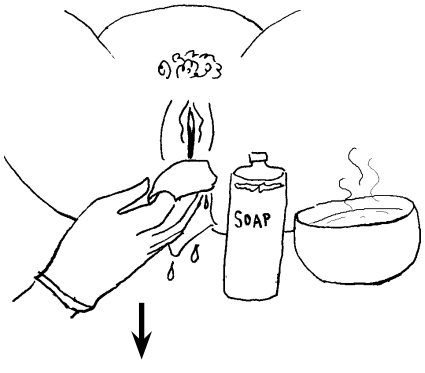
Check the mother's physical signs

Check the mother's temperature, pulse, and blood pressure regularly — at least once an hour if she is having any health problems.

Clean the mother's genitals, belly, and legs

Help the mother clean herself after the birth. Change any dirty bedding and wash blood off her body.

Wash your hands and put on gloves before you touch the mother's genitals, just as you did before the birth (see pages 53 to 55). Clean the mother's genitals very gently, using very clean water and a sterile cloth. If you have some disinfectant, like betadine, add a little to the water. Do not use alcohol or any other disinfectant that might sting the mother. You can use a little mild soap or even salt if you do not have disinfectant.

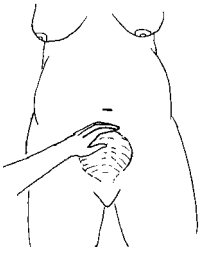


Wash downward, away from the vagina. Be careful not to bring anything up from the anus towards the vagina. Even a piece of stool that is too small to see can cause infection.

Prevent heavy bleeding

After the birth, it is normal for a woman to bleed the same amount as a heavy monthly bleeding. The blood should also look like monthly blood — old and dark, or pinkish. The blood comes out in little spurts when the womb contracts, or when the mother coughs, moves, or stands up.

Very heavy bleeding is dangerous. To check for heavy bleeding in the first few hours after birth:



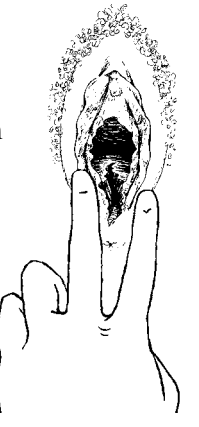
Feel if the womb is getting hard.

- feel the womb to see if it is contracting. Check it just after the placenta is born. Then check it every 5 or 10 minutes for 1 hour. For the next 1 to 2 hours, check it every 15 to 30 minutes. If the womb is hard, it is contracting as it should. Leave it alone between checks. If it is soft, see page 236 to learn what to do.
- check the mother's pads often for too much bleeding —500 ml (about 2 cups) is too much.
- check the mother's pulse and blood pressure every hour. Watch for signs of shock (see page 239).

Check the mother's genitals for tears and other problems

Use a gloved hand to gently examine the mother's genitals for tears, blood clots, or a hematoma (bleeding under the skin). Also check to see if the cervix has prolapsed (dropped down to the vaginal opening).

If the mother has a tear



If you do not know how to sew a tear, if there is nowhere nearby where she can go to have the tear sewn, or if the tear is small, it can probably heal without sewing.

Ask her to rest in bed for 2 weeks with her legs together most of the time. She should move her legs regularly, but she should not climb up or down steps or steep hills. Someone else should do the cooking and cleaning for the family. To speed healing, she should also eat plenty of healthy food.

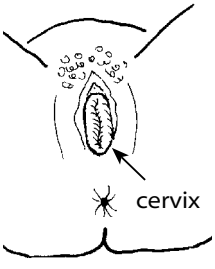
To learn how to sew a tear, see page 356.

If the mother has a hematoma or pain in the vagina

Sometimes a woman may have a large amount of bleeding into the skin in her vagina, called a hematoma. The skin in this area is often swollen, dark in color, painful, and soft. Sometimes the mother feels dizzy and weak as if she were bleeding too much, even though the womb is hard and there is only a little bleeding from the vagina. Pain in the vagina can be a sign that she is bleeding into a hematoma.

Although a hematoma is painful, it is usually not serious unless it gets very large. If the hematoma is growing, press on the area with sterile gauze for 30 minutes or until it stops growing. If the mother has signs of shock, treat her for shock (see page 239) and get medical help so the blister can be opened and the trapped blood can come out. If you know how, you can drain it yourself by opening it with a sterile scalpel. After draining, put pressure on the area with a sterile gauze until the bleeding stops.

If the cervix can be seen at the opening of the vagina



If you can see the cervix at the vaginal opening after childbirth, the womb has prolapsed into the vagina. This problem is not dangerous, and the cervix will usually go back up inside the mother in a few days. You may be able to push the womb farther in with a gloved hand. Help the mother raise her hips so that they are higher than her head. Ask her to do squeezing exercises (see page 44) at least 4 times a day.

Watch her closely for signs of infection during the next 2 weeks (see pages 271 and 272).

If the cervix stays at the vaginal opening for a month or more, the mother should get medical advice. A cervix that stays prolapsed can cause problems when the woman has another child.

Help the mother urinate

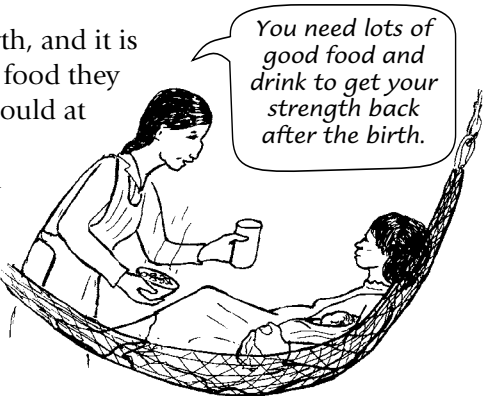
A full bladder can cause bleeding and other problems. A mother's bladder will probably be full after birth, but she may not feel the need to urinate. Ask her to urinate within the first 2 to 3 hours. If she is too tired to get up and walk, she can squat over a bowl on the bed or on the floor. She can also urinate into a towel or thick cloth while lying down. If she cannot urinate, it may help to pour clean, warm water over her genitals while she tries.

A mother should try to urinate soon after the birth.

If the mother cannot urinate after 4 hours:

1. Check her bladder (see page 161). If it is not full, help her drink fluids.
2. See page 352 for ways to help a woman urinate.
3. If she still cannot urinate, she may need to have a catheter inserted (see page 352). If you have not been trained to use a catheter, get medical help.

Help the mother eat and drink



Most mothers are ready to eat soon after birth, and it is good for them to eat any kind of nutritious food they want. If a new mother is not hungry, she should at least have something to drink. Fruit juice is good because it gives energy. Many women want something warm to drink, like herbal tea. Some juices, like orange juice, also have vitamin C, which can help healing. (But she should avoid soda pop like Coke that is full of sugar and chemicals but not nutrition.) Encourage her to eat soon, within the first few hours, and to drink often.

If the mother cannot (or will not) eat or drink after 2 or 3 hours

- The mother may be ill. Check for bleeding (see page 236), infection (see page 271), and other signs of illness that may be taking away her appetite.
- The mother may be depressed (sad, angry, or without any feelings). Encourage her to talk about her feelings and needs.
- The mother may believe that certain foods are bad to eat after a birth. But she must eat to recover from the birth and to be able to care for her baby.

Eating after birth

Midwives, healers, family members, and doctors may all have different advice about the food women should eat during pregnancy and after birth. The nutrition information in this book is based on the ideas most Western doctors, nurses, and midwives learn. Other systems of medicine and local customs prescribe different ways of eating, such as avoiding spicy foods, or only eating warm foods. Some of these ideas may not seem of value to those who practice Western medicine, but they still offer benefits.

However, some customs, such as avoiding protein, are dangerous. Eating only one kind of food is not enough, and avoiding certain foods can lead to serious health problems. After birth, women need to eat as much as or more than they did when they were pregnant. They need the same mix of foods: main foods, vegetables and fruits, and protein foods like beans, eggs, nuts, meat, or milk. Talk to the mother and her family about what she plans to eat after the birth. Help her eat a wide variety of healthy foods. See pages 33 to 42 for more about nutrition.

Watch the mother's feelings about her baby

Mother is not interested in her baby

Some mothers do not feel good about their new babies. There can be many reasons for this. The mother may be very tired, or she may be ill or bleeding. She may not have wanted a baby, or may be worried that she cannot take care of one. She may be very depressed.

What to do

- Check the mother for signs of blood loss or infection.
- You might talk to the mother about her feelings, or you may feel it is better to leave her alone, and to watch and wait.
- If the mother is depressed, or if you know that she was seriously depressed after a past birth, talk to the family about giving her extra attention and support in the next weeks. Usually this depression passes in time, but sometimes it takes a few weeks or even months.
- Make sure someone in the family takes care of the new baby.

Watch the mother for infection

A new mother's temperature is often a little higher than normal, especially on a hot day.

But if the mother feels ill, has a fever or a fast pulse, or feels soreness when her womb is touched, she may have an infection. Infection is more likely if her waters broke early in labor, if the labor was long, or if she was exhausted during labor.

What to do

1. Check to see if she is dehydrated (see page 159).

2. Give her lots of water and other fluids to drink.

If she continues to have a fever, she may have an infection. See page 271.

Help with breastfeeding

Breast is best for both the mother and baby. If the mother is not sure she wants to breastfeed, ask her to try breastfeeding just for the first few weeks or months. Even a short time of breastfeeding is better than none.

Make sure the mother understands that if she breastfeeds her baby:

- her womb will more quickly go back to its normal size.
- the baby is less likely to get diarrhea and other illnesses.
- the mother will have more money for her family. (It is more expensive to bottle feed a baby.)

See Chapter 16 for more on breastfeeding.

To help a mother with HIV feed her baby safely, see page 293.

Give the new family some time alone

If the mother and baby are healthy, give them time alone. New parents need time with each other and their new baby. They may also need privacy to talk, laugh, cry, or celebrate in some way.

What to do for the baby

When the mother and baby are stable, usually about an hour after birth, check the baby over from head to toe. Many health problems can be prevented or cured if you find them quickly.

Wash your hands, just as you did for the birth, and put on clean gloves. It is easy for a new baby to get an infection, so everything that touches the baby must be as clean as possible. But there is no need to bathe the baby right away. Bathing, even in warm water, will make her cold. You can safely wait a few hours or even a few days. Wear gloves until the baby is clean and dry to help protect you from getting an infection.

While you examine the baby, keep her warm. Cover her head and the parts of her body you are not examining. If possible, you should warm up the room. Be gentle with the new baby. Babies feel as much as adults do and gentle care will help them feel strong and safe.

The most important things to check for a new baby are her general appearance and other physical signs. Check these as soon as you can after the birth. The other parts of the newborn exam can wait a few hours.

If you can, write down what you find on a chart. A chart will help you remember to do each step, and to notice changes that happen over time. Here is an example of a chart you can use:

Mother's name			Baby's name			
physical signs	hour 1	hour 2	hour 3	hour 4	hour 5	hour 6
general appearance						
breathing						
heartbeat						
temperature						

weight and length	shoulders, arms, and hands
head (skull)	belly
ears	genitals
eyes	hips
nose and mouth	legs and feet
neck	back
chest	skin

General appearance

The way a baby looks and sounds can tell you a lot about her health. Notice everything! Is the baby small or large? Fat or thin? Do her arms, legs, feet, hands, body, and head seem to be the right size? Is the baby tense or relaxed? Active or still? Listen to the baby's cry. Every baby's cry is a little different, but a strange, high, piercing cry can be a sign of illness.

Baby is limp, weak, does not wake up, or does not eat much

Many babies are very sleepy for the first few days after birth. They should wake up from time to time to breastfeed. When awake, the baby should respond to noise and touch. If the baby does not respond, or seems unusually weak, slow, or limp in the first few hours, she may have one of these problems:

- difficulty breathing (see page 254)
- infection (see page 277)
- sleepiness from drugs or herbs given to the mother during labor
- not enough sugar in the blood (see page 254)

Not enough sugar in the blood

A very weak baby may need more sugar in her blood. This is especially likely if the baby is very big or very small, if the birth was very hard or long, or if the mother has diabetes (see page 115). The baby may stay cold or tremble.

Breastfeed the baby as much as possible — there is sugar in breast milk.

Keep the baby warm and close to the mother. If the baby does not seem more awake and alert in 12 hours, **get medical help**.

Physical signs: breathing, heartbeat, temperature

Check the baby's physical signs every hour for 2 to 6 hours after the birth, or more often if the baby is having problems.

Breathing rate

Count the baby's breaths for one full minute by watching her belly rise and fall. It is normal for breathing to slow down and speed up from moment to moment. A new baby should take between 30 and 60 breaths in a minute while she is resting.

A baby who is breathing too fast, too slow, or with difficulty may be having trouble getting enough air, or may be having other problems.

Baby has trouble breathing, or takes more than 60 breaths a minute

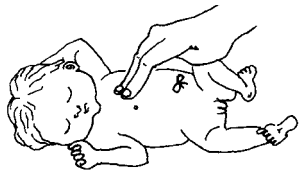
If a baby has trouble breathing, or if she takes more than 60 breaths a minute, it is a warning sign. It could mean that the baby has an infection, has breathed in her own stool, has drugs in her blood from the mother, or has other problems.

What to do

- Keep the baby warm.
- Check for signs of infection (see page 277).
- Lay the baby with her head lower than her bottom to help fluids drain. Suction the baby (see page 213) — especially if you think she might have breathed stool into her nose or throat.
- Encourage the baby to breastfeed.
- If the baby stops breathing — do rescue breathing (see page 242).
- Get medical help.

Heartbeat

A new baby's heart should beat between 120 and 160 times a minute. It may beat as slow as 100 beats a minute or as fast as 180 beats a minute.

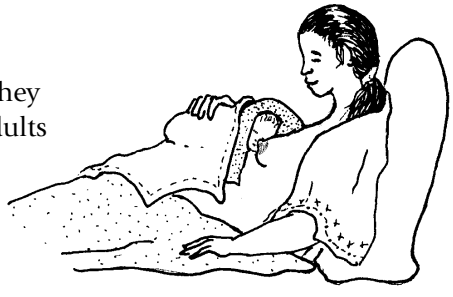


If the baby's heartbeat is too fast, she may have an infection (see page 256).

If the heartbeat is too slow, give rescue breathing (page 242). If the heart rate does not get back to normal, get medical help.

Temperature

Keep the baby warm



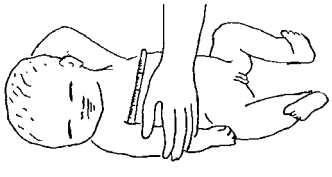
Babies must stay warm to stay healthy. But they cannot keep themselves warm as easily as adults can. The easiest way to keep a baby warm is to put her next to her mother's skin. The mother is exactly the right temperature for the baby. Cover them both with blankets and be sure to cover the baby's head.

If the mother cannot hold her baby for a bit (for example, if she gets up to urinate), someone else can hold the baby. This person should wash their hands well before handling the baby.

Temperature and health

A healthy baby's temperature is around 37°C (98.6°F).

To check the baby's temperature, gently put the silver end of the thermometer into her armpit. Then hold the baby's arm against her body for 3 minutes. If you do not have a thermometer, feel the back of the baby's neck while you touch a healthy person. If the baby does not feel as warm as the healthy person, her temperature is too low.



A baby whose temperature is 36.5°C (97.7°F) or less should be warmed quickly. Do not wait. She should warm up if she is placed skin to skin, between her breasts (see page 257), wearing nothing but a diaper and hat. If she will not warm, try using hot water bottles.

Fill hot water bottles (or jars) with hot water, wrap them in cloths so you do not burn the baby, and put the bottles next to the baby's body.

If the baby does not get warmer after 1 or 2 hours, she may need medical attention.

Infection

When a baby gets an infection, she usually has a low temperature, 36.5°C (97.7°F) or below. Other signs of infection:

- a baby who cannot keep warm even when wrapped in blankets
- a high temperature (fever) especially one lasting more than 4 hours
- a baby who takes more than 60 breaths a minute
- a baby who seems ill
- a baby who sucks poorly or stops feeding
- a baby who has a weak, fast heartbeat

If the baby shows any of these signs of infection, get medical help. If the nearest medical help is more than 2 hours away, give the baby antibiotics on the way. See page 279 for the kind and amount of medicine to give.

Get medical help if the baby cannot warm up after several hours — even if she has no other signs of infection.

Baby does not urinate or pass stool within the first 24 hours

The baby should urinate and pass stool within the first day of birth. If the baby does not do so, her urethra or intestines may be blocked. Get medical help right away.

The baby's body

Weight

Every baby is different, but most healthy babies weigh between 2.5 and 4 kilograms (between 5.5 and 9 pounds).

You may be able to get a scale from the local health authority, buy a hanging fish scale, or make one of the homemade scales on page 445. But you do not need a scale to have an idea of what a normal baby weighs. Every time you hold a baby, think about the weight. Guess whether that baby weighs more than most babies, or less, or about the same. This way, you will know when a baby is very small or very large — even without a scale.

Very small babies

Very small babies who are less than 2.5 kilograms (5.5 pounds) have a higher risk of infection, breathing problems, and jaundice (see page 279). The smaller the baby, the greater the risk. Small babies also may have trouble breastfeeding and digesting their food. Some babies are small because they were born early, and some are just small.

If there is a well-equipped medical center nearby, it may be best to take very small babies there to be cared for. But if you are going to care for a small baby at home, there are some things you can do to help him stay healthy.

What to do

1. Keep the baby warm. The best way to warm him is against his mother's skin. Place the naked baby, with a hat and a diaper, inside the mother's clothing, against her skin and between her breasts. Keep this skin-to-skin contact day and night. The mother will have to change the baby's position to breastfeed. If the mother needs to bathe, put the baby next to another person's skin until the mother is done.

2. Give breast milk. Breast is best for all babies, but it is even more important if the baby is very small. Breast milk is easiest for the baby to digest, it gives the best nourishment, and it protects the baby from illnesses. A small baby may not be able to eat much. Keeping him close to the mother's body will help him to breastfeed often. In this way, he will get enough to eat.

   If the baby is not able to breastfeed, the mother should remove milk from her breasts by hand (see page 285). The mother should feed the baby the breast milk with a very clean cup or spoon until he is strong enough to breastfeed. Give the baby as much breast milk as he will take and as often as he will take it. He must eat to grow.

3. Visit the baby every day for the first few weeks, to check for warning signs. Be sure the mother knows the signs of jaundice (see page 279), breathing problems (see page 241), and other signs of infection (see page 277). If the baby develops any warning signs, get medical help.

Causes of small babies

Babies come in all sizes — that is normal. But small babies are much more likely to have problems than bigger babies.

And the size of a baby is not just a matter of chance. Mothers who get enough food and care in pregnancy usually have bigger babies. Mothers who did not get enough food and care usually have smaller babies.

Small babies are often born to:

- mothers who did not get enough to eat in pregnancy.
- mothers who had to do very hard work during pregnancy.
- mothers who did not get good medical care in pregnancy.
- mothers who smoke cigarettes.
- mothers who were exposed to pesticides or toxic chemicals in pregnancy.
- mothers who have had many babies before.

Note: A small baby does not make an easier birth. And small babies have many more health problems. For a healthy birth and a healthy baby, women must eat enough.

Baby weighs more than 4 kilograms (9 pounds)

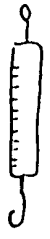
Watch all big babies carefully for the first 2 days. If they seem tired, weak, or sick, they may not have enough sugar in the blood. See page 254 and get medical help.

Some babies are big because their mothers had diabetes. These babies may have problems with the amount of sugar in their blood. Make sure these babies breastfeed often and stay warm.

Weighing a baby with a scale

If you have a scale, you can find out exactly how much a baby weighs. (See page 445 for how to make your own scale.)

If you have a hanging scale, follow these steps:



1. Attach a cloth to the scale.
2. Adjust the scale so that it is at **0**. If there is no knob to adjust the scale, write down how much the cloth weighs (the number that the scale is at when the cloth is attached).
3. Put the naked baby into the cloth to weigh him.
4. If you were able to adjust the scale, it will tell you the weight of the baby.

   If there is no knob to adjust the scale, you must subtract the weight of the cloth to find out the weight of the baby.

Adjust the scale to **0** or weigh the cloth.

For example:

Baby and cloth together weigh	3.25 kilograms
Cloth alone weighed	– 0.25 kilograms
So baby alone weighs →	3.00 kilograms

If you have a scale that you stand on, follow these steps:

1. Weigh yourself, and write down the weight.
2. Get off the scale.
3. Get back on the scale holding the baby without his clothes or blankets. Write down the weight.
4. Subtract your weight from the combined weight of you and the baby.

For example:

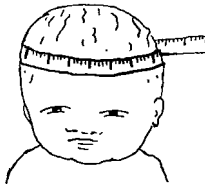
You and baby together weigh	62 kilograms
You weighed	– 59 kilograms
So the baby alone weighs →	3 kilograms

Length

If you have a tape measure, measure the baby from the top of her head to the bottom of her heel. Most babies are between 45 and 53 centimeters (18 to 21 inches). Babies who are not within this range may have problems.

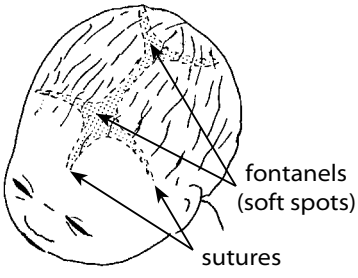
Head

If you have a tape measure, measure the baby's head, just above the ears. The normal size for a baby's head is 35 centimeters (13 to 14 inches). Write down the head size. A very large or small head can be a sign of illness or disability in the child.



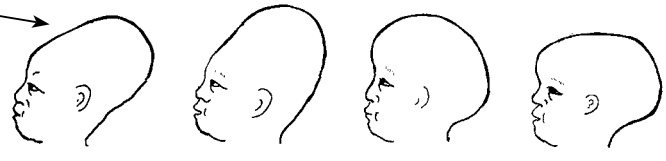
Head shape, suture lines, and fontanels

The skulls (head bones) of children and adults are solid, but a new baby's skull is made of 5 separate pieces. The spaces between these 5 pieces are called sutures or suture lines. The baby's skull also has 2 larger soft areas called fontanels or soft spots.



These spaces between the skull bones allow the skull pieces to move during birth. This helps the baby's head squeeze through the mother's vagina.

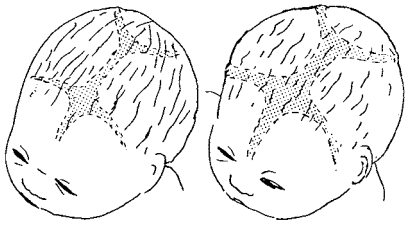
Sometimes the skull bones have to overlap for the head to be born. This is called molding. When the baby is first born, his head may be be in a pointed or flattened shape. It will usually become more normal in 1 to 3 days. Here are some of the different shapes you might see at birth.



Molding is normal.

Gently feel the sutures with your fingers. The front suture should stop at or near the top of the forehead. Notice if the sutures are a normal width or unusually wide. Also gently feel the soft spots. Are they soft, or tense and bulging? Do not push on the soft spots — you could hurt the baby.

If the sutures are unusually wide, if the front suture goes down to the middle of the forehead, or if the soft spots are tense or bulging, the baby may have hydrocephalus (water on the brain). Hydrocephalus can cause learning disabilities or other serious problems. If there are no soft spots, this can also cause problems as the baby's head grows. In either case, get medical advice.

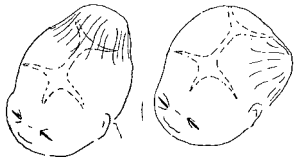


Normal suture lines and soft spots.

Not normal. Could be hydrocephalus.

Caputs and hematomas

Some babies have a swelling called a caput in the area that was pressed against the cervix during labor and birth. A caput usually crosses a suture line. It will go away in 1 or 2 days.



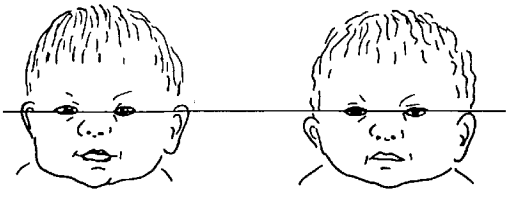
Normal: caput crosses suture line

Not normal: hematoma

If you find a swelling on the head that does not cross a suture line, it may be a hematoma. This means that the birth was difficult for the baby. Hematoma can cause the baby to get jaundice as she heals (see page 279). If you find a hematoma, check the baby every day for signs of jaundice until the hematoma is gone. If possible, get medical advice.

Ears

To check the baby's ears, look straight into her face. Imagine a line across her eyes. Some part of each ear should be above this line.



Ears above the eyes are normal.

Ears below the eyes can be sign that something is wrong.

Some babies with low or uneven ears have other problems inside their bodies. A baby with low ears should be watched carefully. If both ears are below the line, the baby may have kidney problems and you should get medical advice.

To check the baby's hearing, softly clap near the baby's ear. Most babies will move when they hear a sound. If the baby does not seem to hear, get medical advice.

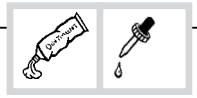
Eyes

Look at the baby's eyes. Notice if they seem normal, and if they move together. A little bit of blood under the surface of the white part of the eye is normal. The blood should go away in a few days.

A little blood in the white part of the eye is normal.

Put medicine in the baby's eyes to prevent blindness

If a mother has chlamydia or gonorrhea (see page 323), she may pass it to her baby during birth. The infection gets into the baby's eyes, and can cause blindness. Many, many women have chlamydia or gonorrhea and do not know they have it. Unless the mother has had a test to show that she **does not** have these infections, give the baby medicine in the eyes to prevent blindness.



To prevent blindness

- put a line of erythromycin 0.5% to 1% eye ointment in each of the baby's eyes, within the first 2 hours after the birth

  or

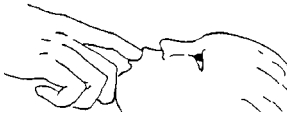
- put a line of tetracycline 1% eye ointment in each of the baby's eyes, within the first 2 hours after the birth

  or

- drop 2.5% solution of povidone-iodine in each of the baby's eyes, within the first 2 hours after the birth

In some areas, people use silver nitrate (or other "silver" eye medicines) in the baby's eyes. These medicines stop gonorrhea blindness, but they do not stop the blindness that comes from chlamydia. Silver nitrate also irritates the baby's eyes for a few days. If you can get erythromycin or tetracycline eye medicine, use one of them. But use silver nitrate if that is all you have.

Nose and mouth



First check if the baby can breathe easily through his nose. If not, try suctioning the baby (see page 213).

Then, gently stroke the baby's cheek. He should turn his head toward your finger. This is called the rooting reflex. Put a very clean finger inside the baby's mouth. The baby should suck on your finger. If there is no rooting reflex, and if the baby does not suck, he may be very weak or sick. Get medical help.

Babies with cleft lip (harelip) and cleft palate

A cleft lip is an opening or gap on the baby's upper lip, often connecting to the nose. A cleft palate is a split in the roof of the baby's mouth. These problems can be fixed by an operation when the baby is older. Cleft lip is often repaired when the baby is 4 to 6 months old. Cleft palate is often repaired when the baby is about 1½ years old.

cleft lip cleft palate

Babies with cleft lip or cleft palate may need some help breastfeeding. For babies with cleft lip, the nipple should go deep into the baby's mouth, so the breast fills up the cleft. If there is still a space in the lip, the mother can put her finger over it.

For babies with cleft palate, the nipple should go as far back into the baby's mouth as possible. Point the nipple to the side of the cleft. The baby should drink with his head up so that milk does not go into his nose. If the baby cannot breastfeed, the mother can remove milk from her breasts by hand (see page 285) and feed the baby with a very clean spoon.

Babies with cleft lip or cleft palate may also have more ear infections and other health problems as they get older. Be sure the mother knows this. Also, a baby with a cleft lip may look unusual, and some parents feel upset when they first see their child. It is important to listen to how these parents feel, and also to remind them of the beauty of their children.

Neck

Check the neck for swelling and lumps. Also, the baby's head should move freely. If you find any problems, get medical advice.

Chest

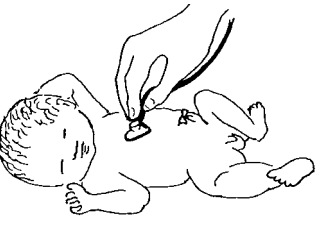
Breathing

Watch the baby breathe. If the skin between and under the baby's ribs sucks in when he takes a breath, the baby is having trouble breathing (see page 241).

Listen to the baby's breathing. Use a stethoscope or fetoscope if you have one. If not, just use your ear. You should hear breathing sounds on both sides of the chest, and on both sides of the back. If you do not hear breathing sounds on both sides, one lung may not be working. Get medical help immediately.

Count the baby's breaths when she is quiet, not breastfeeding or crying. If the baby breathes more than 60 breaths a minute, she may have an infection and need medical help. See page 256.

Heart sounds



If you have a stethoscope or fetoscope, use it to listen to the baby's heart sounds too.

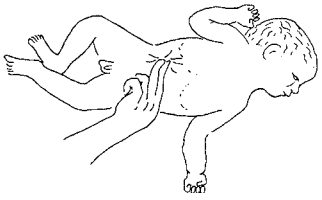
It is hard to describe heart sounds in a book. If possible, someone should teach you what normal heart sounds are like. But listen to the baby's heart sounds even if you are not skilled. Over time you will learn what sounds normal, and will be able to notice unusual sounds. If the heart sounds unusual, get medical advice.

Shoulders, arms, and hands

Look at the baby's arms and hands. Do they look normal? Does the baby move them normally?

Sometimes a baby's shoulder, collarbone, or arm breaks during the birth. Feel them to see if there are any odd lumps or breaks. A baby with a broken bone may cry in pain, but he may not. Simple breaks will usually heal on their own, but if possible, get medical help. Use a cloth to wrap the arm across the front of the body so it moves as little as possible and is not injured more when you go to get help.

Belly



Look at the belly. Does it look normal? What happens to the area around the cord when the baby cries? If some of the baby's insides push the skin out, this means the belly muscles are not connected. This is called an umbilical hernia. Get medical advice.

Next, feel the belly. When the baby is not crying, the belly should be soft. Check for lumps, cysts (round sacs of fluid), or other odd shapes under the skin. If you find anything unusual, get medical advice.

Note: The freshly cut cord can easily become infected. To prevent infection, keep it clean and dry. Always wash your hands before touching the cord and do not cover it or put anything on it. Check to see if the cord has stopped bleeding. If it is still bleeding, clamp or tie it again.

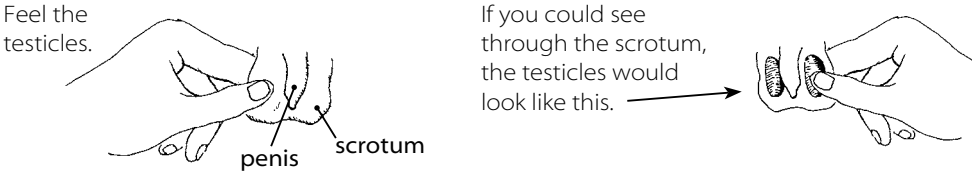
Genitals and anus

Look at the baby's genitals. All babies' genitals look swollen after birth. If the baby was breech, the genitals may be very swollen.

Make sure that the anus is really an opening, and not covered over with skin. If the baby has had a bowel movement, you know that this part of the body works. If the baby has no anus, or if it is closed, get medical help right away.

For a boy

First look at the baby's scrotum. The scrotum is the sac under the penis. Inside the sac, there are 2 smooth, firm balls called testicles which will make sperm when the boy is older. During pregnancy, the testicles form inside the boy's body and they usually drop down (descend) into the scrotum before birth. You should be able to feel the testicles and move them down with your fingers.



If you cannot find one or both testicles, ask the baby's parents to check again in a month or so. If the testicles still have not come down, get medical advice.

Next, check to see if the hole at the end of the penis seems in the right place. If the penis does not look normal, get medical advice.

Male circumcision

Circumcision is an operation to remove the skin around the tip of the penis (foreskin). Sometimes the baby boy is circumcised right after birth, or a few months after birth. Sometimes he is not circumcised until he becomes a young man. Some boys are not circumcised at all.

uncircumcised penis

circumcised penis

Circumcision is important in many cultures and religions. It is not medically necessary but it may provide some protection for a man against sexually transmitted infections, including HIV. For a baby, it can help prevent infections of the bladder and kidneys. The risks of circumcision are infection, bleeding, injury or less sensitivity of the penis, and pain and trauma to the baby. Only a skilled person with sterile tools should circumcise a baby.

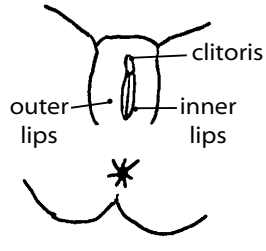
Parents of uncircumcised babies should clean their baby's penis as they do the rest of the baby's body. They should not pull back the foreskin to clean under it until it pulls back easily, usually after a few years.

Some boys are born with their testicles high in their bodies — not in the sac. This can be normal. But it is much more common in boys whose mothers were exposed to toxic chemicals.

If many baby boys in your community have testicles that did not drop down, there may be toxic chemicals in the air, water, or soil that are causing problems for the whole community. And the whole community should work together to protect themselves from these chemicals.

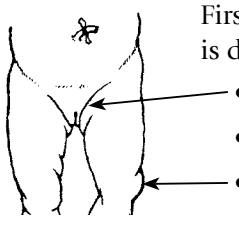
Boys with this problem should be evaluated in a hospital when they are older, not as infants, for surgery that may help prevent cancer of the testicles.

For a girl



Make sure that the girl has both outer and inner "lips" of her genitals. She should also have a small opening to her vagina. If she does not have an opening, she may need an operation. She should get medical help right away. Tell the parents that it is common for girls to have a small amount of blood from the vagina for 1 to 2 days after birth.

Hips and legs

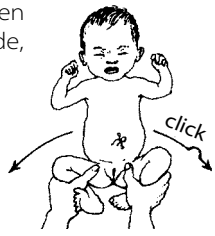


First, look at the baby's hips. Compare the two legs. If one hip is dislocated, that side may show these signs:

- the upper leg partly covers part of the body
- there are not as many skin folds
- the leg may seem shorter, or turned at an angle

Hold both legs with the knees bent, like this:

Then, open them wide, like this:



If you feel or hear clicking, the hip is dislocated.

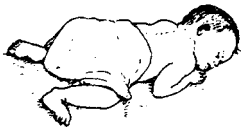
If there is a click when you move the baby's hips, get medical advice.

To treat a dislocated hip

The parents will need to keep the baby's knees high and open. They can:

use many layers of diapers.

lay the baby on his belly with his legs open.

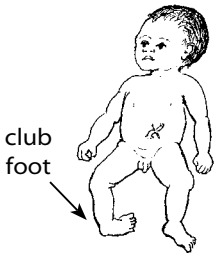


or carry the baby like this:

Also, try to feel the baby's pulse in the place where the leg and genitals come together. A skilled person may have to teach you. If a skilled person cannot find this pulse, the baby may not have good blood flow to the legs. Get medical advice.

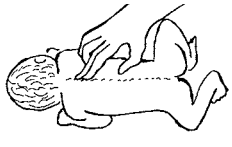
Feet

Look at the baby's feet. If one foot turns inward and cannot be straightened, he may have a club foot. This can usually be fixed with a cast if the baby gets help in the first few days. The book ***Disabled Village Children*** has more information on treating club foot.



Back

Turn the baby over and look at her spine. Look for holes, sores, cysts, growths, or tufts of hair.



Gently move your fingers down the baby's spine to feel the bumps of her spinal bones. Can you feel a flat spot in the spine? Are there any holes in the skin at the bottom of the spine where the baby's buttocks begin?

If you find any holes, sores, growths, or tufts of hair, get medical advice.

Skin

Look carefully at the baby's skin. Some babies have spots on their skin. For example, the baby might have large, dark patches on the lower back or bottom. Other babies have red patches on their faces. These spots are not harmful. Other spots, like small red rashes, can be a sign of infection. If you are not sure, get medical advice.

Color

The baby should be a normal color within a few hours of the birth.

If the baby stays blue

- If a baby's hands and feet are still blue, but the baby is warm, there is probably not a problem. Some babies' hands and feet stay blue for 1 or 2 days after the birth.
- If the baby's lips or face are still blue one hour after birth, the baby may have a problem with his heart or lungs. He may also need oxygen. Place the baby skin to skin with the mother, and cover them to stay warm. Go to the hospital now.

If the baby looks yellow

If the baby seems yellow less than a full day and night after the birth, he may have jaundice or an infection. See page 279, and get medical help.

If the baby is pale

A pale, limp baby may be anemic or have other problems. Get medical help now.

If the baby is very red

A very red baby may be OK. Watch him carefully for a week for signs of jaundice. Get medical help as soon as possible if the baby becomes yellow, starts breathing fast, or has trouble breastfeeding.

Baby has birth defects

When you look a baby over from head to toe, you may see signs that she has an illness or disability. Or you may see that the baby is somehow different from other babies. These differences or disabilities may be called birth defects. Birth defects are sometimes small, and not dangerous, like cleft lip. Or they may be very serious and life threatening, like a large opening in the spine (spina bifida). If you find anything unusual, get medical help.

If the baby has a disability, the parents may be very accepting, or they may not. Some parents think that disabilities are caused by curses or bad luck. Others feel sad that their child is not the way they imagined, or not like other children. They may feel overwhelmed by the extra help that they may need to give a disabled child. Parents of disabled children often need extra support.

Help the parents:

1. find good medical care for their child.
2. learn about the child's special needs.
3. learn about the child's strengths. For example, a child who will not walk because her legs are not formed normally, may have very strong arms and hands and be able to do many useful things with them. The same child may also be very intelligent and able to do useful things with her mind.

There are many helpful books for parents and caregivers of children with disabilities. ***Disabled Village Children***, ***Helping Children Who Are Blind***, and ***Helping Children Who Are Deaf*** are all available from the Hesperian Foundation.

What causes birth defects?

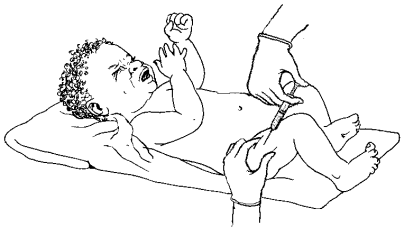
Some babies form differently inside the womb, and no one knows why. But many birth defects can be prevented. Some birth defects happen when:

- the mother did not get enough good food to eat in pregnancy.
- the mother was exposed to sicknesses like herpes, chicken pox (varicella), or German measles (rubella) during pregnancy.
- the mother had to work with toxic chemicals (like pesticides) during pregnancy.
- the mother was given unsafe medicines or drugs during pregnancy.

Birth defects should not be treated as a problem for families to deal with on their own. Their causes affect the whole community. To prevent birth defects, we must change the world we live in so that it is safer for women and families.

Immunizations given at birth

Hepatitis B vaccine Hepatitis B is a serious infection that can cause fatal liver disease (see page 336). Hepatitis B can be passed from an infected mother to a baby during birth, and later is spread by contact with infected blood or body fluids, like HIV is. The vaccine is very effective for prevention. For best protection the first of 3 injections (sometimes 4) should be given at birth.



BCG vaccine In some places where there is a lot of tuberculosis (TB), a vaccination called BCG is given to all babies at birth to prevent severe (disseminated) TB. In other places this vaccination is only given at birth to babies of mothers who have TB. BCG vaccination does not always work, so people who have been vaccinated should still be careful not to be exposed. Babies who are HIV positive and have any signs of illness should not be given the BCG vaccine.

If you do not give these vaccines yourself, help the mother have the baby immunized as soon as possible. For a complete listing of childhood immunizations, see *Where There Is No Doctor*, page 147.

Clean up and answer the family's questions

Clean up the birth area. Anything that has blood on it, including the placenta, must be disposed of so it does not spread germs. See page 67 to learn how to safely dispose of tools and wastes.

Make sure the parents have all of their questions answered before you leave.

CHAPTER 15
The first weeks after the birth

In this chapter:

What to do for the mother 269

Help the mother care for herself 269
Watch the mother's womb and bleeding. 270
Watch the mother for signs of womb infection 271
Watch the mother for signs of vaginal infection 272
Watch for other warning signs. 273
The mother's legs are red, hard, or swollen 273
Leaking urine or stool. 273
Give emotional support 274

What to do for the baby 274

Encourage the baby to breastfeed and watch how she grows 274
Baby has signs of dehydration 275
Baby does not gain weight or grow normally 276
Care for the cord 277
Look for signs of infection 277
Tetanus. 278
Pneumonia 278
Meningitis 279
Watch the color of the baby's skin and eyes. 279

The first weeks after the birth

CHAPTER 15

In the first few days and weeks after the birth, the mother's body will start to heal. Her womb should get smaller and stop bleeding. Her milk should come in. The baby should learn to breastfeed normally and start to gain weight.

The mother and baby will still benefit from your care after the birth. Visit them at least 2 times — the day after the birth, and then again at least once in the following week. If you visit even more, you may prevent more problems. Visit every day if there are signs of problems in the mother or baby.

What to do for the mother

Mothers need care after birth just as babies do.

Help the mother care for herself

After birth, the mother's body is tired and her womb is open. It is easy for her to get infected, but she can stay healthy by:

- getting plenty of rest.
- eating a variety of nutritious foods (see pages 33 to 42).
- drinking plenty of fluids.
- staying clean — washing her hands, genitals, and breasts.

In some cultures, women rest in bed with their babies for 2 weeks or more after a birth. This is a healthy custom because it helps the mother heal, helps her and her baby to be closer, and keeps the mother away from germs outside of her home. If possible, the mother should not do difficult work for about 6 weeks. But she should be sure to walk around a little each day even if she is mostly resting.

Remind the woman and her partner that they should wait until the woman stops bleeding before they have sex. Also be sure to talk to the couple about family planning because the woman can become pregnant again soon.

Watch the mother's womb and bleeding

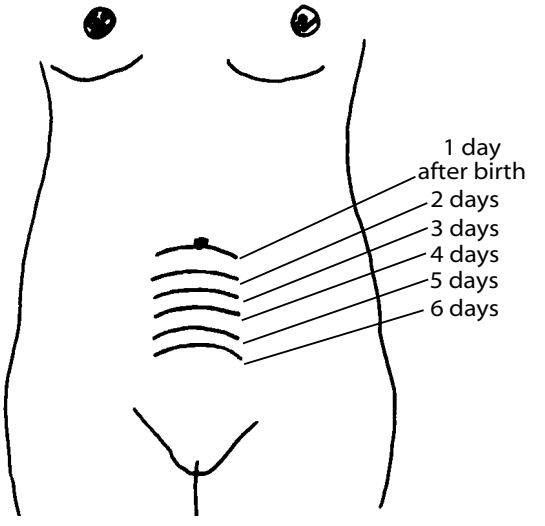
HEALTHY SIGNS After the birth, the mother should bleed about the amount of a normal monthly bleeding or less. Her bleeding should stop after 2 or 3 weeks but may last as long as 6 weeks.

Her womb should be firm and get smaller and smaller each day.

WARNING SIGNS

- Womb feels soft or large.
- Mother bleeds a lot.
- Mother has signs of shock.

Check this chart to see where the top of the womb should be after the birth.



The mother's womb

If the womb gets soft, rub it until it is firm (see page 224). Show the woman's family how they can rub the womb when you are not there. Ask the mother to breastfeed more often, and watch for too much bleeding.

Also, feel the womb to be sure it is going down to its normal size. Just after birth, the womb is about halfway between the pubic bone and the bellybutton. The next day, it grows to the height of the bellybutton, and should shrink every day after that.

The mother's bleeding

If the mother soaks more than 1 pad in an hour, she is probably bleeding too much. Rub the womb to help it contract. Remind the family that the mother needs to rest. Working too much often causes bleeding after a birth.

If these methods do not work, give medicines to stop bleeding (see page 231). If the bleeding continues, or if the mother has signs of shock, get medical help right away.

Watch the mother for signs of womb infection

HEALTHY SIGNS normal temperature — around 37°C (98.6°F).

WARNING SIGNS

- Fever, 38°C (100.4°F) or higher
- Chills
- Fast pulse
- Heavy bleeding
- Bad-smelling genitals or bleeding
- Pains in the belly
- An ill feeling

If a woman has any of these signs after a birth, she may have a womb infection. Womb infections are very dangerous — they can quickly kill a woman.

If possible, a woman who may have a womb infection should go to a medical center right away. She can be tested to find out which antibiotic medicines will cure her infection. If you cannot get medical help, treat the woman at home.

Giving antibiotics at home

You cannot be sure which germs are causing a womb infection, so you will need to give 4 antibiotics to kill many different germs. If you do not have all of these antibiotics, it is better to give only 1 or 2 than none at all.

Give the antibiotics until the signs of infection have been gone for 2 days. This may take about 5 days altogether.

To treat womb infection

- inject 80 mg gentamicin ..... in the muscle, 3 times a day for about 5 days

and

- give 2 g ampicillin ..... in the muscle or by mouth for the first dose, then give1 g ampicillin ..... 4 times a day for about 5 days

and

- give 400 to 500 mg metronidazole ..... by mouth, 3 times a day, for about 5 days

Give these medicines until the woman has had no fever for 2 days (48 hours).

WARNING! If the woman does not start to feel better within 1 or 2 days, she may have pieces of the placenta still in her womb. These will need to be removed. Keep giving her antibiotics and take her to a hospital.

Watch the mother for signs of vaginal infection

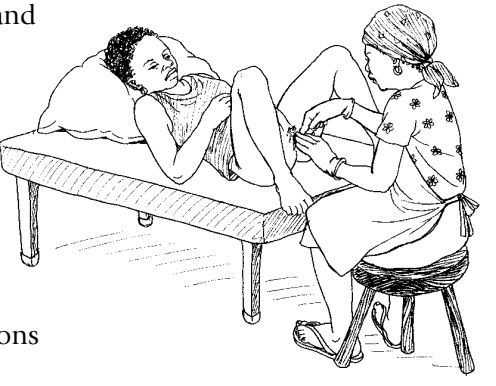
HEALTHY SIGNS Any tears in the vagina are healing, and the skin is not swollen or hot.

WARNING SIGNS

- Pain in the vagina
- Pus or a bad smell from the vagina
- Swelling, redness, or a hard lump in the vagina

An infection of the vagina is not as dangerous as a womb infection.

Wash your hands well, put on gloves, and look at the woman's vagina. If you see any of the warning signs listed here, she probably has an infection. If you see pus, check to be sure the pus is not coming from high inside her vagina. If it is, she probably has a womb infection.



If the pus is coming from a hard lump or tear on the woman's genitals, get medical help, or follow these instructions to drain the pus yourself.

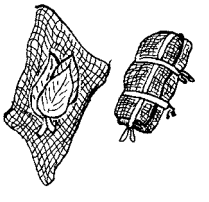
To drain the pus

Warm, wet cloths will usually draw out pus.

If the tear is open

Hold sterile cloths dipped in boiled warm water on the infected area.

If you know plant medicines that will draw out pus, wrap them in a sterile piece of cloth or gauze, and tie the cloth so the plants cannot fall out. Boil the wrapped plants, let them cool a little, and then press on the infected area.



If you feel a hard lump under the skin

If you feel a hard lump, pus or blood is probably trapped inside. Watch the lump each day. If it is painful or growing larger, get medical help.

Watch for other warning signs

The mother's legs are red, hard, painful, or swollen

WARNING SIGNS Very rarely, after a birth, a woman's blood can form a clot in her leg. Signs of a clot are:

- swelling or heat in one leg or foot.
- pain in one leg when it is squeezed or during walking.
- a painful red area on one leg.
- a hard lump in the leg.

A clot can move to a woman's lung and make breathing impossible.

A blood clot is very dangerous. If the clot breaks free and moves through her blood, it can cause problems in other parts of her body. For example, the clot can go into her lung and make it impossible for her to breathe.

If a woman has a sign of a blood clot, go to a medical center immediately. On the way, have the woman lie down with her legs above her hips and try to stay still. Put warm cloths on the swollen area, but do not rub or massage it. Give aspirin for pain.

Leaking urine or stool

When urine or stool leaks freely from a woman, she may have a hole in the skin inside her vagina, called a fistula. This hole is caused during labor by the baby's head pressing hard on the skin between the bladder and the vagina, or sometimes the skin between the rectum and the vagina. The pressure of the head is so great that the skin dies and a hole opens up between 3 and 12 days after the birth.

Fistulas can usually be treated. A small fistula may heal on its own: the woman should drink a lot of fluids and take sitz baths (see page 326). If she is catheterized for 3 weeks, urine will be kept out of the fistula long enough for it to heal.

A serious fistula needs to be repaired. There are hospitals that can do this surgery — usually about 3 months after the birth. Help the woman get to a medical center for help.

Fistula causes leaking urine.

Fistulas can be prevented

A fistula happens when a woman is in labor for a long time. When a woman has been in labor for many hours, do not keep waiting. Get medical help. To learn more about preventing fistulas, see page 22.

Give emotional support

It is important to give the mother emotional support. Customs and rituals that honor the mother or celebrate the birth are one way to recognize the work she has done in labor.

What to do if the mother feels very upset or sad (depressed)

Most women feel strong emotions after giving birth. This is normal. Some feel sad or worried for a few days, weeks, or months. When this happens, you can help by listening to the woman's feelings and explaining that the feelings are common.

When these sad feelings are very strong, it is called depression. It may be difficult for the woman to care for herself or her baby. She may even act crazy. A woman who is depressed needs help. She needs help caring for her home and family, and she needs help to stop feeling so upset. If possible, someone should stay with the woman to help and to be sure she does not hurt herself or her baby.

There are also some traditional rituals and remedies, as well as modern medicines, to help a woman feel better. The modern medicines are expensive and can cause other problems, so they should only be taken in extreme cases.

A woman who had feelings like this after a previous birth is more likely to feel them again after this birth.

What to do for the baby

Encourage the baby to breastfeed and watch how she grows

The baby should breastfeed every few hours, from the first hour after the birth on. A baby who is breastfeeding enough and who is healthy should urinate and pass stool within the first 24 hours after birth, and regularly after that. She should not have signs of dehydration, and should gain weight. Keep the baby warm and dry, and play with her.

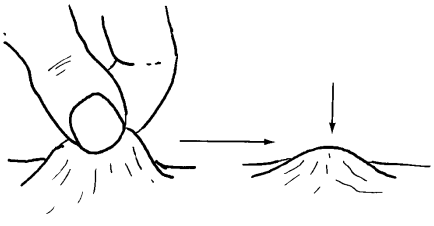
Baby has signs of dehydration

If the baby is not breastfed enough, if she has diarrhea or vomits, or if she has a fever, she can become dehydrated. Dehydration happens when there is not enough water in the body. It is very dangerous, and can kill a baby.

Signs of dehydration:

- sunken soft spot
- sunken eyes
- dry mouth or cracked lips
- urinating less than 4 times a day
- dark-colored urine
- fast pulse and breathing
- skin that is not stretchy

To check the stretchiness of the skin, pinch the skin on your own arm and let it go. Watch how quickly it goes back to normal. Now pinch the skin on the baby's belly and let it go. If the baby's skin goes back to normal more slowly than yours did, she is dehydrated.



To help a dehydrated baby

Encourage the mother to breastfeed often — every 1 to 2 hours. Also give the baby rehydration drink (see page 160) — a few drops each minute until the baby is better.

Dehydration can be caused by infection (see pages 277 to 279). If the baby is not better in 4 hours, get medical help.

Bottle-feeding causes dehydration

A common cause of diarrhea and dehydration is giving formula to a baby. If possible, the mother should breastfeed. If she cannot breastfeed, the family must use clean water and the correct amount of formula powder. Bottles and nipples must be boiled to be safe. See page 281 to learn more about formula.

Baby does not gain weight or grow normally

It is normal for a baby to lose weight for a few days after birth. But she should regain her birth weight by 2 weeks and continue to gain weight steadily. A baby who does not gain weight or grow enough may not be getting enough milk. She may also have an infection, diarrhea, or another health problem.

Watch how often the baby breastfeeds. The mother should feed the baby whenever he wants, for as long as he wants — at least every 2 or 3 hours for at least 20 minutes, until the breast is empty. If the baby does not try to breastfeed often, she may be very sick. Take her to a medical center right away.

Watch the mother's health. If the mother is ill or not getting enough good food or fluids, she may not make enough milk. Encourage the family to care for the mother and give her extra food.

See Chapter 16 to learn more about breastfeeding. If the baby just does not grow, get medical advice.

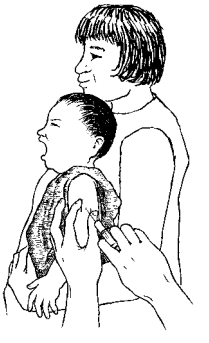
Baby "shoots" vomit

Most babies spit up (vomit a small amount). Usually, the vomit dribbles out of the baby's mouth, especially after eating.

If vomit "shoots" forcefully out of the baby's mouth each time she eats, she may have an infection or something blocking milk from moving through her body. Get medical advice.

Encourage immunization

Immunizations (vaccines) protect children from many dangerous diseases. The most important vaccines for young babies are DPT (for diphtheria, whooping cough and tetanus), polio, hepatitis B, Hib (for Haemophilus influenza), PCV (pnuemococcal vaccine), RV (rotavirus), and BCG (for tuberculosis). Each country has its own schedule for giving these vaccines and they are usually free. Most vaccines are started when a baby is about 2 months old. Encourage the mother to take the baby to the nearest health center.

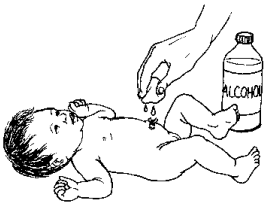


If the mother has HIV

Giving ART medicines will protect a baby from becoming infected with HIV if his mother has HIV. This medicine should be started within 72 hours after the baby is born. See page 495 for more information. When the baby is 6 weeks old, he should also start taking a medicine called cotrimoxazole to prevent infections. See page 478.

Care for the cord

To prevent the stump of the baby's cord from getting infected, it should be kept **clean** and **dry**. Show the family how to care for it.



If you clean the cord, be gentle.

- Always wash your hands before touching the cord.
- If the cord becomes dirty or has a lot of dried blood on it, clean it with soap and boiled (then cooled) water, medical alcohol, strong drinking alcohol, or with gentian violet. Be gentle with the cord.
- Do not put anything else on the cord — dirt and dung are especially dangerous.
- If there are a lot of flies where you live, you may cover the cord stump with a clean dry cloth. But usually you should leave it uncovered.

The cord stump usually falls off 5 to 7 days after the birth. There may be a few drops of blood or smooth mucus when the cord falls off. This is normal. But if there is a lot of blood or any pus, get medical help.

Look for signs of infection

WARNING SIGNS

- The baby seems very weak or tired, or stops breastfeeding.
- The baby has diarrhea.
- The baby cannot keep warm, even when wrapped in blankets.
- The baby has a fever above 38°C (100.4°F).
- The baby has a weak, fast heartbeat.
- The baby breathes with difficulty, and more than 60 breaths a minute.
- The baby seems ill.

Cord infection

Infection in a baby is most often caused by germs getting into the cord stump. When the cord is infected, the area around the cord usually becomes red, drains pus, feels hot, or smells bad. If signs are mild, start by cleaning and putting gentian violet on 2 times a day. If it does not improve or gets worse after 1 or 2 days, give the medicines in the box on page 279 or get medical help.

Tetanus

If the cord was cut with something that was not sterilized, or if someone put dirt or dung on the cord stump, the baby can get tetanus. Even with good care and medicine, most babies who get tetanus will die.

To prevent tetanus, pregnant women must be vaccinated (see page 102), and the cord must be kept clean.

A baby with tetanus will usually be stiff, with her head bent back, and will have very brisk (strong) reflexes. Check the baby's reflexes for signs of tetanus:

Let the leg hang freely and tap it just below the kneecap with your knuckle or finger.

If the leg jumps a little bit, the reaction is normal.

If it jumps a lot, the baby may have tetanus.

If you see signs of tetanus, get medical help immediately.

If medical help is more than 2 hours away

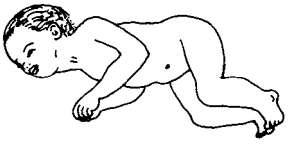
- inject 100,000 Units benzylpenicillin.....on the outside of the baby's thigh muscle, 1 time only

Pneumonia (lung infection)

Infection can also happen in the baby's lungs (pneumonia). This is most common if the mother's water broke more than 24 hours before the birth, or if she had a fever during labor.

Signs of a lung infection in a baby are: breathing fast (more than 60 breaths a minute) grunting when she breathes, or sucking in the skin between her ribs as she breathes. Get medical help, especially if the baby is small or was born early. On the way, give antibiotics.

Meningitis (brain infection)



Rarely, a baby becomes infected in the brain (meningitis). A baby with an infection in the brain will have a stiff neck and lie with her head bent back. She may vomit, the soft spot on her head will bulge, and she may become unconscious. A baby with an infection of the brain can quickly die. **Take the baby to a hospital immediately.**

If you have antibiotics, give them on the way to the hospital. See page 279.

Antibiotics for infections in a newborn

such as pneumonia, meningitis, infections of the blood (sepsis) and others

- inject ampicillin ..... in the outside of the baby's thigh muscle,
  2 times a day for a baby up to 6 days old
  3 times a time for a baby 1 week old or more

for a 2 kg or smaller baby:	inject 80 mg
for a 3 kg baby:	inject 150 mg
for a 4 kg or bigger baby:	inject 200 mg

and

- inject gentamicin ..... in the outside of the baby's thigh muscle,
  once a day

for a 2 kg or smaller baby:	inject 8 mg
for a 3 kg baby:	inject 12 mg
for a 4 kg or bigger baby:	inject 16 mg

Take the baby to a hospital. If this is not possible, give ampicillin and gentamicin for at least 5 days.

Watch the color of the baby's skin and eyes

Many babies have a yellow color to their skin or eyes a few days after birth. This is called jaundice. Jaundice is caused when a yellow substance called bilirubin builds up in the baby's body. Normally, a new baby's body breaks the bilirubin down in a few days, and the yellow color goes away.

Rarely, the baby can have severe jaundice, which is dangerous. Signs are:

- The yellow color starts on the first day of the baby's life.
- The yellow color lasts for more than 2 weeks.
- The yellow color extends to the baby's hands or feet.
- The baby seems very sleepy or does not wake up to breastfeed.
- The baby does not stay warm.

If the baby shows any of these signs, get medical help immediately.

Otherwise, help the baby breastfeed often, and give the baby some sun. The sun helps break down the bilirubin. If it is warm enough, take off the baby's clothes, cover her eyes, and put her in the sun for 5 minutes once or twice a day. (Too long will burn the baby's skin.)

Put a yellow baby in the sun for a few minutes every day.

CHAPTER 16
Breastfeeding

In this chapter:

Breast is best 281

Baby formula can be dangerous 281

How to breastfeed 282

How to hold the baby. 282

What the mother should eat while breastfeeding 283

When the mother works outside the home 284

Removing milk from the breasts 284

Sharing breast milk. 286

Common difficulties while breastfeeding 286

Fear of not having enough milk 286

Flat or inverted nipples. 287

Engorged (swollen) breasts 288

Painful lump in the breast (abscess) 288

Breast infection 289

Sore or cracked nipples. 290

Thrush 290

Baby has gas pains (colic) 291

Situations that affect breastfeeding 291

Twins 291

Small babies and early babies 292

Breastfeeding while pregnant 292

When the mother is sick. 292

HIV and AIDS 293

Alternatives to breastfeeding 294

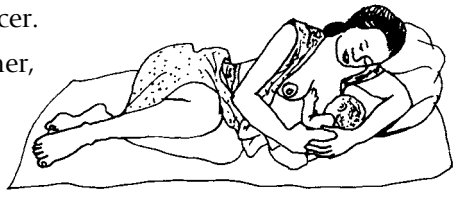
Breastfeeding

CHAPTER 16

Breast is best

Breast milk has all the nutrition a baby needs. It also gives many other benefits:

- Breast milk protects the baby against many illnesses including diarrhea, pneumonia, diabetes, and cancer.
- Sucking on the breast, close to the mother, helps the baby feel safe.
- Breast milk is always fresh, clean, and ready to eat.
- Breastfeeding helps the mother's womb contract after birth and slows bleeding.
- Breastfeeding can prevent the mother from getting pregnant again right away.
- Breastfeeding helps protect the mother against brittle bones (osteoporosis) and some kinds of cancer later in her life.
- Breastfeeding costs nothing — it is free!



Breastfed babies are healthier.

Baby formula can be dangerous

Companies that sell formula and other breast milk substitutes will say almost anything to make people buy them. They may say substitutes are modern, or clean, or as safe and nutritious as breast milk. But **milk substitutes do not have all the benefits of breast milk and, for most babies, they are not safe**.

Bottle-fed babies are more likely to get sick and die.

- Formula is less nutritious.
- Formula is harder for the baby to digest.
- Bottle-feeding requires extra clean water and fuel to boil the water and bottles. If the bottles or water are dirty, bottle-feeding can cause dangerous diarrhea that can lead to death.
- Formula costs a lot of money.
- Some families try to make formula last longer by adding extra water. This makes babies grow more slowly and get sick more.

How to breastfeed

Help mothers start breastfeeding within an hour of the baby's birth. The first yellow-colored milk, called colostrum, is just what a new baby needs. It has the right nutrition and provides extra protection against infection. Colostrum also cleans the baby's intestines. There is no need to give teas or herbs to do this.

A baby will usually show she is ready to feed by moving toward her mother's breast or by smacking her lips. If the baby has a hard time breastfeeding at first, the mother can put a few drops of milk on the baby's lips and on her nipple to encourage the baby to suck.

A mother should feed her baby whenever he is hungry, day and night. Many new babies will suckle every 1 to 2 hours. The more the baby suckles, the more milk the mother will make.

Babies should have only breast milk (drink no other fluids and eat no other foods) for the first 6 months. And babies old enough to eat still need to breastfeed until they are about 2 years old or older.

WARNING! **Breast milk is the best and only food a baby needs for the first 6 months.** If a mother gives a baby formula, water, teas, or cereals before 6 months, the baby will suck at the breasts less. This makes the mother have less milk. These other foods can also cause diarrhea, allergies, or other problems in a young baby.

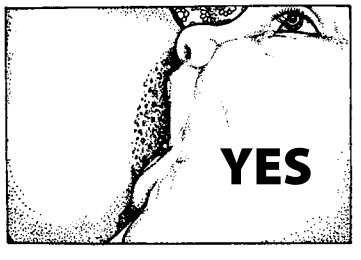
How to hold the baby

A woman may have a difficult time learning to feed her first baby. You can help by encouraging her to keep trying and showing her the right positions for breastfeeding. A good position helps the baby attach better to the breast, feed better, and prevents sore or cracked nipples.

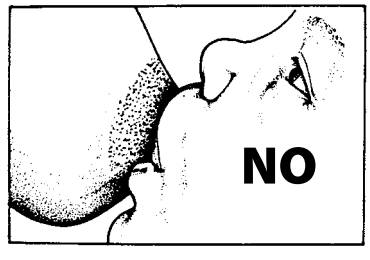
The mother should support the baby's head with her hand or arm. The baby's whole body should face the mother so his neck is not turned. This position makes it easier for him to swallow.

When the baby opens his mouth wide, the mother should bring the baby onto her breast. The baby should have a big mouthful of the breast, with the nipple deep in his mouth.

This baby has a good mouthful of breast.

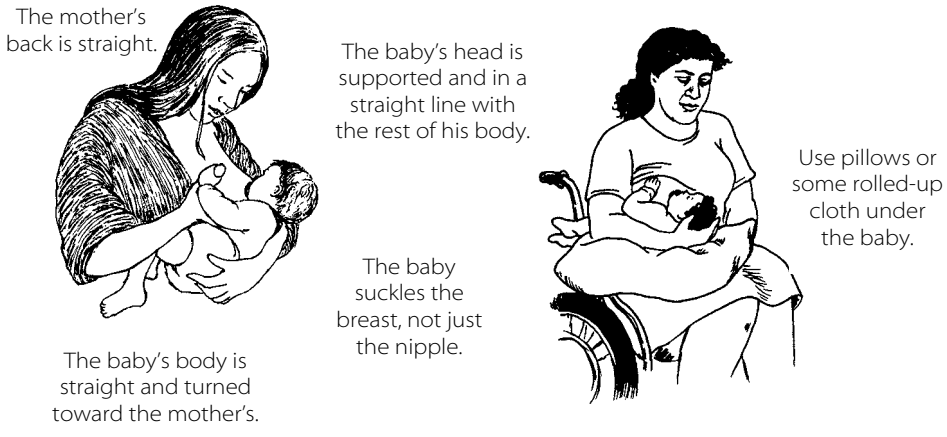


This baby does not have enough breast in his mouth.



Breastfeeding positions that work well

Chest to chest, chin to breast


The mother's back is straight.
The baby's head is supported and in a straight line with the rest of his body.
Use pillows or some rolled-up cloth under the baby.
The baby suckles the breast, not just the nipple.
The baby's body is straight and turned toward the mother's.

What the mother should eat while breastfeeding

To heal after a birth, and to make breast milk, a woman should eat as much or more as when she was pregnant. And she should eat a wide variety of foods including fruits and vegetables and foods rich in protein and fats — like nuts, beans, cheese, eggs, and meat.

She also needs to drink plenty of liquids. Water, herb teas, fruit juices, and milk will all help her stay healthy and make breast milk.

When the mother works outside the home

When a mother works away from home, it can be hard for her to give her baby only breast milk during the first 6 months. If possible, the mother can bring her baby with her to work, or someone can bring the baby when it is time for her to feed.

In some places, people are trying to get laws passed that allow women workers to take breaks to breastfeed their babies or to remove breast milk by hand.

Removing milk from the breasts

Another way for the mother to give breast milk when she is away is to remove the milk from her breasts. Then someone else can feed the baby for her. She may also want to remove milk by hand if her breasts are too full, or if she cannot breastfeed for some reason but wants to keep making milk.

You can remove milk 2 or 3 times each day . . .

. . . then send or store the milk so someone else can feed your baby.

A woman may be able to get a breast pump to help her remove milk more easily. Some clinics and medical centers loan or rent out electric pumps. They may also sell simple hand pumps at low cost. Some women can easily remove milk by hand.

How to remove milk by hand

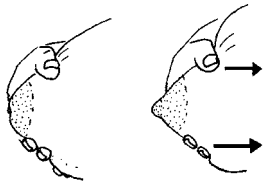
1. Wash a jar and lid with soap and clean water and leave them in the sun to dry.

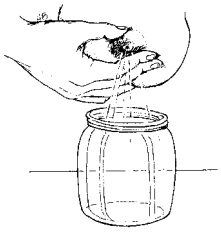
   If possible, pour some boiling water into the jar and then pour it out just before using it. This will kill germs in the jar, and keep the milk safe.

2. Wash your hands well.

3. Put your fingers and thumb at the edge of the dark part of the breast (areola), and press in towards the chest.

4. Gently press the fingers together and roll them towards the nipple. Do not pinch or pull the nipple. Removing milk should not hurt.





5. Move your fingers all the way around the areola so the milk can come out of the whole breast. Do this with each breast until it is empty.

   At first, not much milk will come out, but with practice, more will come. The mother can usually remove more milk if she is in a quiet, calm place and feels relaxed. Thinking about her baby while she removes her milk may help the milk flow for her.

Saving milk

Breast milk should be saved in clean, boiled containers. Keep it covered in a cool place, away from sunlight.

Breast milk can sit in a room for about 8 hours before it spoils — as long as the room is not very hot. It can be stored even longer if it is kept cold. Try wrapping the jar in wet cloths. Milk stored in a refrigerator can last for 2 or 3 days. It can also be kept in a very cold freezer for up to 2 weeks, but once it thaws it should not be frozen again.

To warm up milk that has been stored, put the container of milk in a bowl of warm water. Do not microwave breast milk.

WARNING! Milk that cannot be kept cold will spoil and should be thrown out. If milk smells sour or strange, throw it out. **Spoiled breast milk can make a baby very sick.**

Feeding milk that has been removed

When feeding milk or formula to a young baby, use a very clean cup or spoon. Even newborn babies can drink from cups. Do not pour the milk into the baby's mouth or she will choke. An older baby can drink from a cup or a feeding bottle and rubber nipple.

Whatever a baby drinks from must be very clean. Unclean bottles and rubber nipples in particular often carry germs that cause serious infections in babies. Boil the cup, bottle, and nipple before using them. If this is not possible, wash them with clean water and soap and let them dry in bright sunlight.

> A baby sucks on bottles or pacifiers (dummies) in a different way from how she sucks the breast. She may forget how to suck the breast correctly if she uses a bottle while very young. The more a baby has breastfed before using a bottle, the better. If possible, do not give a bottle to a newborn.

Sharing breast milk

Breastfeeding another woman's baby is a common practice. Many mothers do this for friends or family members when a mother needs to be away from her baby at feeding time. Sharing breast milk is free, easy, and can make ties between families stronger. But if a woman has HIV, it is possible she can pass her infection to the baby through her breast milk (see page 293). This can happen even if she seems healthy or does not know she has HIV. It is best if women are tested for HIV before sharing breast milk.

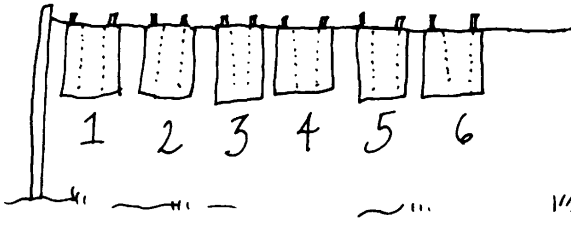
Common difficulties while breastfeeding

Fear of not having enough milk

Some women are afraid that they do not have enough breast milk. Health workers or family members may even tell them they do not have enough. Assure the mother that this is almost never true. **The more a baby suckles, the more milk a mother's breasts will make.**

At times the baby may suddenly want more milk than before. Assure the mother that this is normal. It means the baby is growing and so is his hunger. The baby does not need anything else to eat or drink — just let him breastfeed more often and for as long as he wants. After about 2 days of extra breastfeeding, the mother's milk supply will have grown to meet the baby's needs.

The baby is getting enough breast milk if he gains weight and urinates more than 6 times a day.



Breast milk gives a baby all the water and nutrition she needs.

Some people give water, teas, tinned milk, or other drinks to their babies — but for the first 6 months this is not necessary and is in fact dangerous. Giving other drinks can fill the baby up without giving her nutrition. Water and other drinks that are not clean can cause infection.

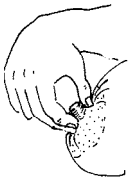
Flat or inverted nipples

Some women's nipples are flat or inverted (sink into the breast). Even so, the baby can usually breastfeed without a problem. But the mother and baby may need some help in the first few days.

long nipple flat nipple

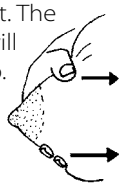
Breastfeeding with flat nipples

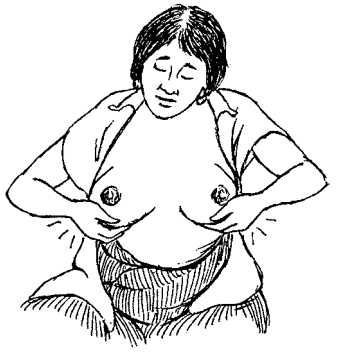
- Start breastfeeding right after birth — before the breasts become full.
- If the breasts are very full, remove some milk by hand to make them softer.
- Gently roll the nipple to make it stand out.
- Cup a hand around the breast and pull back. The nipple will pop out.



Take the breast like this:

and pull back towards the chest. The nipple will stand up.





Engorged (swollen) breasts

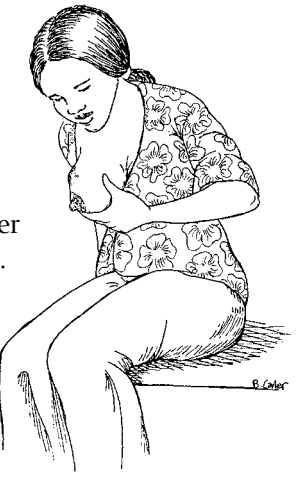
Sometimes a mother's breasts get very full and hard, especially during the first few days after the birth. This can be painful for the mother and also makes her more likely to develop a breast infection. It can also make it hard for the baby to suck the breast. If the mother begins breastfeeding the baby very soon after the birth, and feeds often, she may avoid this problem.

But if a mother's breasts do get swollen, she can try the following:

- Breastfeed the baby more often, both day and night (every 1 or 2 hours, and on both breasts).
- Place hot, wet cloths on the breasts for 15 to 20 minutes before each feeding.
- Put ice, cool cloths, or fresh cabbage leaves on the breasts between feedings. Let the milk leak freely and support the breasts with a bra or cloth.
- If the baby has trouble getting onto the breast because it is swollen, remove a little milk by hand until the breast is soft enough for the baby to take.

Encourage the mother and remind her that this problem will go away soon.

Painful lump in the breast (abscess)



If a painful lump forms in the breast, the milk is probably getting stuck in one part of the breast. If the lump is not treated, the breast can easily become infected.

If a mother has a painful lump, she should:

- breastfeed frequently (every 1 or 2 hours), giving the baby the sore breast first. If for some reason the mother cannot breastfeed, she must remove the milk by hand.
- stay in bed and keep the baby with her so he can feed often.
- drink lots of liquid.
- place hot, wet cloths on the sore breast for 15 to 20 minutes before each feeding.
- use ice or cold cloths between feedings to lessen the pain.
- gently massage the lump as the baby feeds.

Some women have gotten rid of an abscess by drinking 1 tablespoon of vinegar in a cup of water every hour. Putting cabbage leaves on the abscess also might help.

Breast infection (mastitis)

Infection inside the breast can occur if the mother has sore, cracked nipples or full, engorged breasts, if she wears a very tight bra or binding clothing, or if she is very tired or in poor health. Preventing these situations will help prevent breast infection.

Signs of breast infection:

- abscess (painful lump in the breast)
- hot, red, sore area on the breast
- body aches and pains
- fever of 38°C (100.4°F) or higher

For breast infection

- give 500 mg dicloxacillin ..... by mouth, 4 times a day for 7 days

or

If you cannot find this medicine, or if the woman is allergic to penicillin

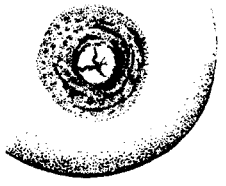
- give 500 mg erythromycin ..... by mouth, 4 times a day for 7 days

For fever and pain

- give 500 to 1000 mg paracetamol ..... by mouth, every 4 hours, until the pain goes away

If a breast infection is not treated early, it will get worse. If an abscess develops and antibiotics do not make it go away, the woman should see a health worker who has been trained to drain an abscess using sterile equipment.

Sore or cracked nipples



If a woman feels pain in her nipples while breastfeeding, the baby is probably not in a good position. If the baby keeps breastfeeding in a bad position, the mother's nipples may crack. Cracked nipples can become infected.

To treat sore or cracked nipples:

- Help the mother hold the baby in a position that allows the baby to get a large mouthful of breast (see page 282).
- The mother can rub breast milk into her nipple. This will prevent infection in the cracks and keep the nipples soft so they will not crack more.
- Encourage the mother to leave her breasts open to air and sunlight when she is not breastfeeding.
- Encourage the mother to keep feeding from both breasts — but she can start with the less sore breast and switch to the cracked one once the milk starts flowing.

Offer the whole breast (not just the nipple) so the baby can get a good mouthful.

- If the pain is too great to breastfeed, the mother can remove her milk by hand and feed the baby with a cup and spoon for a few days.

Thrush

If a baby is in a good position while suckling and the mother still has pain in the nipples that lasts for more than a week, it may be caused by thrush (a yeast infection on the nipple or in the baby's mouth). The mother may feel an itch on her nipples or a stabbing burning pain. The baby may have white spots or redness in her mouth.

How to treat thrush

Mix gentian violet and water to make a 0.25% strength. For example, if you have a solution of 1% gentian violet, mix 1 teaspoon with 3 teaspoons of water.

Use a clean cloth or a finger to paint the nipples and white spots in the baby's mouth once a day for 5 days. Gentian violet will stain clothing and will turn the baby's mouth and the mother's nipples purple — this is normal. The mother should keep breastfeeding. If the thrush does not get better in 3 days, stop using gentian violet and get medical advice.

The baby has gas pains (colic)

If a baby starts to cry and pull his legs up soon after he starts to suck, he may have gas — too much air in the belly. Some babies swallow air when they breastfeed. It may help to let the baby burp.

Lay the baby on your shoulder and rub or pat his back.

or

Lay the baby across your knees and rub or pat his back.

or

Sit the baby up leaning forward and rub or pat his back.

Sometimes a baby seems to get gas pains when the mother eats a certain food or spice. The mother can try eating food without spices, or stop eating a food that may be causing gas for 2 or 3 days (if she is getting enough nutrition from other foods). There is no particular food that should be avoided, because each baby is different.

Gas pains usually stop when the baby is about 4 months old.

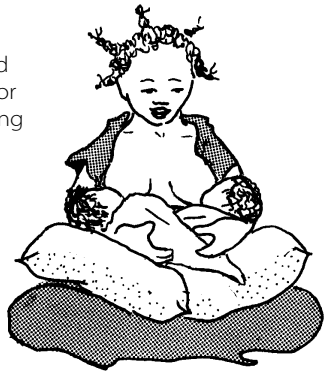
Situations that affect breastfeeding

Twins

Twins should be breastfed just like other babies. Remember, the more a mother breastfeeds, the more milk her body will make. A mother can breastfeed both babies at the same time or she can breastfeed them one at a time.

A mother with twins will need more rest, food, drink, and help from her family and from you.

Two good positions for breastfeeding twins.



Small babies and early babies

Most small babies and early babies need breast milk. If the baby is too weak to suck from the breast, a mother can remove her milk by hand and then feed her baby with a cup or spoon until the baby is strong enough to breastfeed. See page 256 for more on caring for small babies.

Breastfeeding while pregnant

It is safe to breastfeed while pregnant or to breastfeed an older child and a new baby. The mother should eat even more food and get plenty of rest.

The new baby should always be fed before the older baby.

When the mother is sick

It is usually best for a mother to keep breastfeeding even when she is sick. To prevent becoming more sick, the mother can:

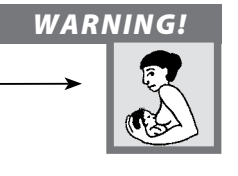
- drink plenty of fluids.
- lie down while breastfeeding.

Family members and friends can help the mother with her chores so she can rest.

Medicines

If possible, breastfeeding mothers should not take drugs or medicines. But some mothers who are sick must take medicines. These women should use medicines that are safe to take while breastfeeding.

Most of the medicines listed in this book are safe to take while breastfeeding. A few that are not safe are marked with this symbol → in the green medicine pages starting on page 463.



This medicine is not safe to take while breastfeeding.

HIV and AIDS

Mothers who are breastfeeding should protect themselves from becoming infected with HIV. See page 334 to learn how.

Some mothers with HIV pass the infection to their babies through breast milk. Other mothers with HIV breastfeed their babies and their babies do not become infected. No one knows exactly why HIV is passed to some babies and not others. HIV probably passes more easily during breastfeeding when:

- the mother recently became infected with HIV.
- the mother is very sick with AIDS.
- the mother gives formula or other fluids or foods along with breast milk.
- the mother has cracked nipples or a breast infection.
- the baby has thrush in her mouth.

For most mothers, even mothers with HIV, breastfeeding is the safest way to feed their babies. That is because in most places, formula and other milks cause many babies to get sick or die from diarrhea or hunger. Many more babies die from taking formula than get sick or die from HIV passed through breastfeeding.

If a mother with HIV chooses to breastfeed, here are some things that may make it safer:

- **Give only breast milk for the first 6 months.**
  Babies who have breast milk **and** formula, teas, or other foods or drinks are more likely to become infected than babies who drink only breast milk. Any other foods or liquids will irritate the baby's intestines.

To prevent cracked nipples, help the baby get a good mouthful of breast.

- Stop breastfeeding completely after 6 months.
- Position the baby correctly to avoid cracked nipples.
- Treat thrush, cracked nipples, and breast infections right away.
- Do not feed the baby from a breast that has mastitis or an abscess — instead, remove the milk and throw it away.

A woman who is being treated with medicines for HIV is less likely to pass the disease while breastfeeding. See pages 492 to 498.

Heating breastmilk to prevent passing HIV

Breast milk can be heated almost to boiling to kill the HIV virus. A baby will not be at risk of getting HIV from this heated milk. Heating breast milk takes work, but it can be done if a woman has clean water, fuel, and support.

How to heat breast milk

1. Place a jar of breast milk in a pot of water.
2. Bring the water to a boil.
3. Immediately remove the pot from the heat.
4. Let the milk cool before feeding it to the baby with a cup or bottle.

Breast milk should not be boiled.

Heated milk should be used within a few hours.

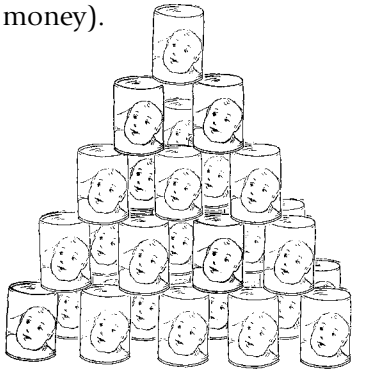
Alternatives to breastfeeding

Breastfeeding is best, but there are a few times when it is not possible. If a mother is infected with HIV, if she is very sick, or if she adopts a child, she may not be able to or may choose not to breastfeed.

For some families, formula may be a safe alternative to breast milk.

Formula is only safe when:

- the family has enough clean water to make plenty of formula to feed the baby.
- the family has enough fuel to boil bottles.
- the family can afford to buy all the formula the baby needs (and will not dilute it with too much water, to save money).



One can of formula may not seem expensive, but formula for many months costs a great deal.

Families who give formula must follow the directions on the package exactly. Do not thin the formula by adding extra water or by using less milk or powder. **Dirty bottles and nipples or watered-down formula can kill a baby.**

Families who cannot afford formula have tried some other ways to feed their babies. These ways are not possible for every mother, but may be for some.

Someone else may be able to breastfeed the baby.

- A relative or friend who does not have HIV can breastfeed the child.
- Animal milks can be fed to a baby. Animal milks have more fat and less sugar than human milk, so they must be mixed with water and sugar to be fed to a baby. People do not agree on one recipe that will make animal milk most healthy for a baby. Here are 2 ways to make it, depending on the kind of animal milk you have.

To feed a baby with animal milk

from cow milk, goat milk, or camel milk:

- mix 100 ml fresh milk with 50 ml clean water and 10 g (2 tsp) sugar

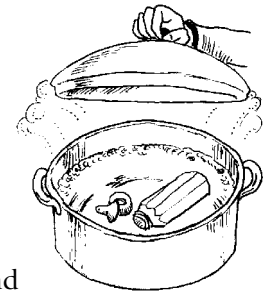
from sheep milk or buffalo milk:

- mix 50 ml fresh milk with 50 ml clean water and 5 g (1 tsp) sugar

Bring the formula to a boil and then remove it from the heat. Let it cool and then feed immediately.

Animal milks do not have all the vitamins a growing baby needs — so the baby should be given a wide variety of vegetables, fruits, and other foods starting at about 6 months of age.

When a family gives formula or animal milk they must keep everything very clean. The cup, spoon, bottle, rubber nipples, and any containers used for milk or formula should be washed thoroughly and boiled for 20 minutes before each use.



Prepared formula, tinned milk that has been opened, and animal milks should never be left at room temperature for more than 2 hours. They will spoil and could make the baby very sick. Formula can sit in a cold refrigerator for up to 12 hours.

Health skills

INTRODUCTION

Midwives help women and families during pregnancy and birth, but also with health needs that are not directly connected to giving birth. This makes sense because the skills and understanding that a midwife brings to a woman during pregnancy and birth are also of use when a woman needs other health care, or is having a medical emergency. For example, a midwife who is already skilled at stopping bleeding after a birth can easily learn to stop bleeding after a pregnancy has ended early.

In many places, a midwife is also the only health worker in the community. In these places, midwives already help women and their families with many of their general health care needs. The more skills midwives gain, the better able they will be to help women who have no other health care.

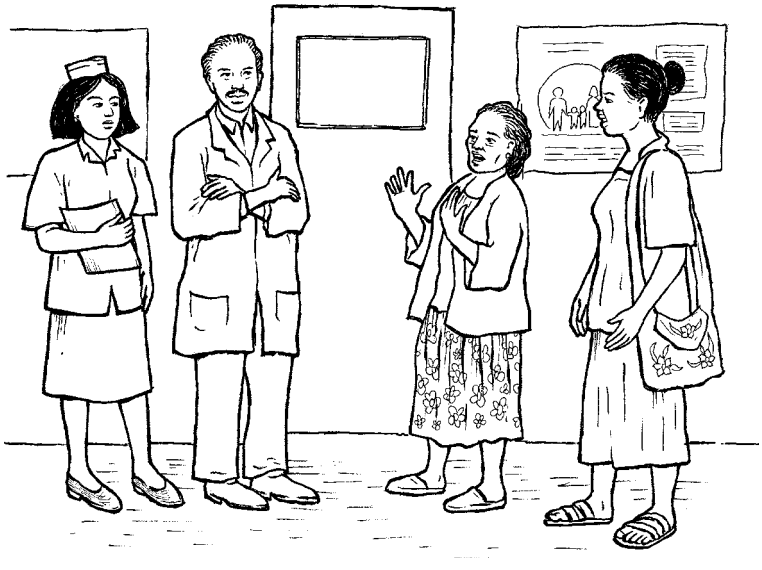
This section describes how to do a number of procedures that may be useful in labor, or may be useful for helping women with health needs in other parts of their lives. These procedures can be done by most midwives in most places. But they may require careful training and practice to do safely. Be sure to get help from other experienced health workers and teachers when learning to do these procedures. Only try the more invasive procedures after you have been trained, and only if you have sterile tools. But do not be afraid to learn these new skills. With these skills, you will be able to improve the lives of the women in your community.

In the following chapters, we give instructions for giving injections and IVs, for checking dilation in labor, and for speeding a labor that is going slowly. Two chapters tell how to help women use family planning and how to treat women who have sexually transmitted infections.

We also explain how to give a woman a pelvic exam to look for signs of infection or cancer. Other chapters describe how to help a woman who wants to use an IUD for family planning, and how to help a woman who is having problems after a pregnancy ends early.

One of the most important tasks of a midwife is deciding when and how to get help. No one can solve all health problems on her own. Chapter 24 gives ideas about working with medical centers, hospitals, and other health workers so women can have safe care in emergencies.

Working together, and listening to each other, midwives, nurses, doctors, and other health workers can make sure all women get the care they need.



Finally, Chapter 25 gives ideas for making homemade equipment and teaching tools.

CHAPTER 17
Family planning

In this chapter:

Choosing a family planning method 300

Condom for men (rubber or prophylactic) 302
Condom for women 302
Diaphragm 304
Spermicide (foam, jelly, cream, or tablets) 305
Hormonal methods 305
Birth control pills (oral contraceptives or "the pill") 307
Injectable contraceptives 309
Implants. 309
Intrauterine device (IUD). 310
Sex without intercourse 312
Breastfeeding. 312
Fertility awareness (natural family planning) 312
The mucus method 313
The counting days method. 314
Sterilization 315
Emergency contraception. 316
Pulling out (withdrawal) 317
Contraceptive sponge. 317
Homemade sponge method 317
Methods that do not prevent pregnancy 318

Making family planning work for the community 318

Men must also be responsible for family planning 318
Family planning programs that work. 319

Family planning

CHAPTER 17

Having the number of children you want, when you want them, is called family planning. It is also sometimes called child spacing. There are many methods, both traditional and modern, that can be used for family planning. Family planning methods are sometimes called birth control or contraception.

Why might a woman and a man want to use family planning?

- to take time to finish their education or have an income before they have children
- to allow a couple of years between their children
- to have only as many children as they feel they can support
- to avoid a risky pregnancy, for example if the woman has a certain illness, or is under 17 and does not have a fully formed pelvis

Childbirth should not be dangerous, but in places where women are poor, are not well fed, and do not have access to good health care, many women die because of heavy bleeding and other childbirth complications. A woman may want to protect herself by limiting the number of her pregnancies.

All women have the right to decide whether to have children and how many children to have. However, most women face barriers to this choice. Midwives can help women have more choices:

- by learning about family planning and sharing the information.
- by working with others to give couples more choices of family planning methods.
- by working with the community to get men more involved in using family planning.

Choosing a family planning method

On the following pages we describe different family planning methods. Before recommending a method, find out about the woman's needs.

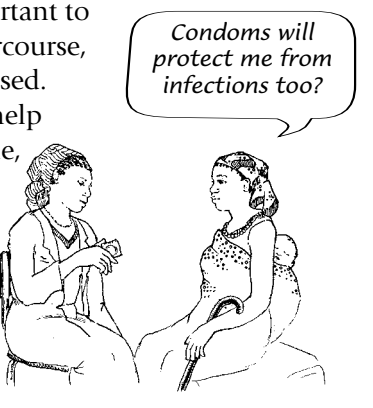
- Does she want to be sure she will not get pregnant using this method?
- Is she concerned about side effects (uncomfortable and unintended effects)?
- Does she want a method she does not have to think about every day — or can she use a method that requires keeping charts or taking a pill each day?
- Is the woman's partner willing to cooperate in using family planning?
- How much can this woman spend on family planning?
- Does the woman want a method that she can stop using if she wants to become pregnant — or one that is permanent?
- Does she need a method that prevents sexually transmitted infections (STIs)?

The methods described in this chapter work well to prevent pregnancy. Each of these methods also has disadvantages. The woman and her partner may need instruction on how to use the method. The method may cost something, it may require a medical visit, or it may have certain health risks. Make sure you understand how comfortable, safe, costly, or complicated each method is before you recommend it. Make sure the woman understands too.

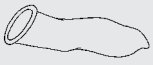
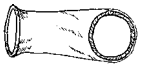
Consider STI protection along with pregnancy prevention

When thinking about family planning it is important to also think about HIV and other STIs. Sexual intercourse, which causes pregnancy, is also how STIs are passed. Some family planning methods, like condoms, help prevent pregnancy and protect against STIs. Some, like birth control pills and intrauterine devices (IUDs), only prevent pregnancy.

When you are helping a woman choose a family planning method, you must help her think about her risk of STIs including HIV. See Chapter 18 to learn more about STIs.



On the next page is a chart that shows how well each method works to prevent pregnancy and to protect against STIs. The chart also shows what the possible side effects are for each method, and other important information about how the method must be used. Each method has stars to show how well it prevents pregnancy for the average user. When a man and a woman use a method correctly every time they have sex, the method will work better.

FAMILY PLANNING METHOD	Protection from pregnancy	Protection from STIs	Possible side effects	Other important information
Condom for men 	★★ GOOD			Most effective when used with spermicide and lubricant.
Condom for women 	★★ GOOD			Less effective when the woman is on top of the man during sex.
Diaphragm (with spermicide)	★★ GOOD			Most effective when used with spermicide.
Spermicide	★ SOME		skin allergy	More effective when used with another barrier method like diaphragm or condom.
Hormonal methods Birth control pill, patch, injections Implants	★★★ VERY GOOD ★★★★ BEST		nausea, headaches, changes in monthly bleeding	These methods may be dangerous for women with certain health problems.
IUD	★★★★ BEST		heavy and painful monthly bleeding	This method may be dangerous for women with certain health problems.
Sex without intercourse (penis not inside vagina at all)	★★★★ BEST			Some couples, especially young people, may have a hard time using this method.
Breastfeeding (during the first 6 months only)	★★ GOOD			To use this method, a woman must give her baby only breast milk, and her monthly bleeding must not have returned yet.
Fertility awareness	★★ GOOD			To use this method correctly, a woman must understand when she is fertile.
Sterilization	★★★★ BEST			Women or men will never be able to have babies after this operation.
Pulling out (withdrawal)	★ SOME			More effective when used with another method like spermicide or diaphragm.
Sponge	★★ GOOD		yeast or bladder infections	Less effective for women who have had children.

Condom for men (rubber or prophylactic)

A condom is a narrow bag of thin rubber that the man wears on his penis while having sex. The bag traps the man's sperm (seed) so that it cannot get into the woman's vagina or womb. Condoms work well to prevent pregnancy. Condoms also help prevent sexually transmitted infections (STIs), including HIV.

The most effective condoms are made from latex or polyurethane — not sheepskin.

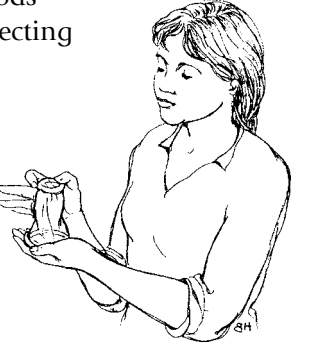
A new condom must be used each time a couple has sex.

Lubricant can make sex feel better for both the woman and the man. It can also keep the condom from breaking. Use a water-based lubricant like saliva (spit), *K-Y Jelly*, or spermicide. Do not use oils, petroleum jelly *(Vaseline)*, skin lotions, or butter. They can make the condom break. A drop of lubricant inside the tip of the condom makes it more comfortable on the penis. A little lubricant can also be rubbed on the outside of the condom after the man puts it on.

Condom for women (female condom)

A female condom fits into the vagina and covers the outer lips of the genitals. Each condom should be used only once, because it may break if it is reused. But if a woman does not have any other condoms, she can clean it and reuse it up to 5 times. The female condom should not be used with a male condom.

The female condom is the most effective of the methods controlled by women in preventing pregnancy and protecting against STIs, including HIV.

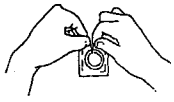


Female condoms can be expensive and take time to learn to use. They work best when the man is on top and the woman is on the bottom during sex.

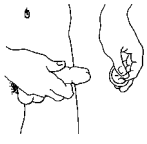
3 types of female condoms are now available. The newest are less expensive. The VA female condom fits more closely to the woman's body, so it is more comfortable and makes less noise during sex.

How to use a male condom

A new condom should come rolled up inside a small packet that has not been opened. Be careful not to tear the condom as you open the packet. If the condom is stiff, hard or feels sticky, throw it away. It will not work.



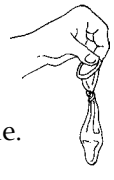
1. A condom should be put on the man's penis when it is hard, and before it touches the woman's genitals. An uncircumcised man should pull his foreskin back. The man should squeeze the tip of the condom and put it on the end of the penis.



2. Unroll the condom until it covers all of the penis. Keep squeezing the tip of the condom while unrolling. Without this extra space at the tip for the sperm, the condom may break.

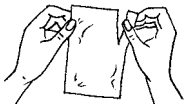
3. Right after the man ejaculates (comes) and before his penis gets soft, he should hold on to the rim of the condom while he pulls his penis out of the vagina. Then he should carefully take the condom off.

4. Tie the condom shut. Then throw it in the garbage or a latrine.

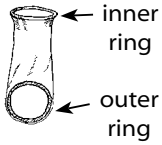


How to use a female condom

1. Carefully open the packet without tearing the condom.

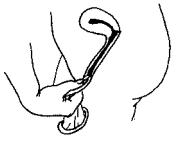


2. Find the smaller inner ring, which is at the closed end of the condom.

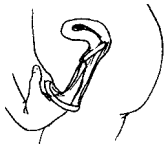


3. Squeeze the inner ring together.

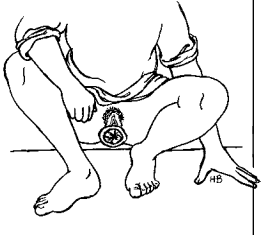
4. Put the inner ring in the vagina.



5. Use your finger to push the inner ring up into your vagina and over the cervix. The outer ring stays outside the vagina.

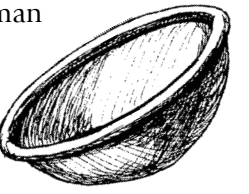


6. Be sure to guide the penis through the outer ring when you have sex.



7. Remove the female condom immediately after sex, before you stand up. Squeeze and twist the outer ring to keep the man's sperm inside the condom. Pull the condom out gently, then bury it or throw it in a latrine. Do not flush it down the toilet.

Diaphragm

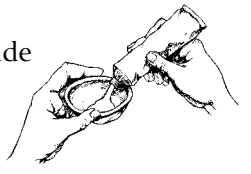


The diaphragm is a shallow cup of soft rubber that the woman wears in her vagina during sex. The diaphragm covers the cervix so that the man's sperm cannot get into her womb. The diaphragm should be used with spermicide (see page 305). When a diaphragm is used correctly, it is effective in preventing pregnancy and may also give some protection against STIs, like HIV.

Diaphragms come in different sizes. A health worker must help a woman find the right size. Midwives can learn to fit women for diaphragms. It is easy to do once you have been trained.

How to use a diaphragm

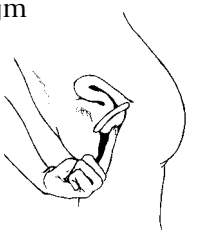
1. Squeeze some spermicide into the center of the diaphragm. Then spread a little around the edge of the diaphragm. If you do not have spermicide, you can still use the diaphragm, but it may not work as well.



2. Squeeze the diaphragm in half.

3. Push the diaphragm into the vagina, right over the cervix.

If the diaphragm is in correctly, the woman can feel her cervix through it.



4. Leave the diaphragm in place for at least 6 hours after sex. If the woman has sex again before 6 hours have passed, she should put more spermicide in her vagina first.

After using the diaphragm, the woman should wash it in mild soap and water. Then she should dry it, dust it in cornstarch if she has any, and store it in a clean, closed container.

Spermicide (foam, jelly, cream, or tablets)

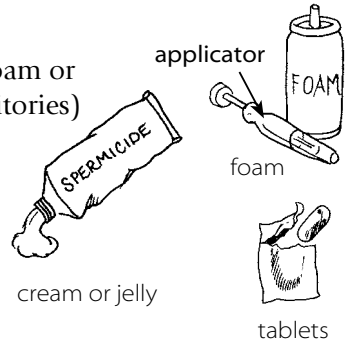
A spermicide is a chemical that kills sperm after it comes out of the penis. Spermicides are fairly good at preventing pregnancy when used alone, and are very effective when used with a condom or diaphragm.

WARNING! **A woman should use spermicide only if she knows that her partner does not have HIV.**
Most spermicide is made with a chemical called Nonoxynol 9. Nonoxynol 9 irritates the vagina, causing tiny cuts. These cuts allow HIV to pass more easily into the blood. So using spermicide, especially using it very often, may actually make HIV more likely to pass during sex.

How to use spermicide

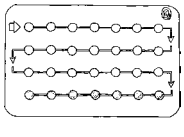
The woman puts the spermicide in her vagina. Foam or jelly is put in with an applicator. Tablets (suppositories) are put deep in the vagina with the fingers.

Spermicides should be put in the vagina no more than half an hour before having sex. Spermicide must be left in the vagina for at least 6 hours after having sex. A woman needs to put in more spermicide each time she has sex.

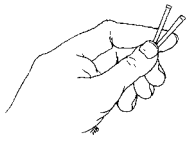


Hormonal methods

Birth control pills, injections, and implants contain hormones. Hormones are chemicals that a woman's body normally makes. Hormones regulate many processes in a woman's body including her monthly bleeding and her ability to become pregnant. Hormonal methods of family planning prevent pregnancy by stopping the woman's ovaries from releasing eggs into her womb. Some hormonal methods include:


pills

injections


implants

New hormonal methods are still being invented. Some newer methods are a contraceptive patch, a ring (worn around the cervix), and a hormonal IUD.

Hormonal methods are very effective in preventing pregnancy. But none of them used alone protect women against HIV or other STIs.

Most birth control pills and some injections contain two hormones: estrogen and progestin. Implants, some pills, and some injections contain only progestin.

Some women should not use a method that contains estrogen.

These women should use progestin-only methods:

- Women who have high blood pressure that is not controlled by medicine.
- Women who have diabetes.
- Women who have epilepsy.
- Women who have ever had a stroke, paralysis, or heart disease.
- Women who have hepatitis or liver problems (yellow skin and eyes).
- Women who have ever had a blood clot in the veins (this usually causes a deep and steady pain in one leg or hip). Varicose veins (swollen veins) are usually not a problem.
- Women who get migraine headaches (especially with vision changes).
- Women who are breastfeeding, in the first 3 weeks after birth. Be sure to wait until your milk is coming in well before using a method that contains estrogen.

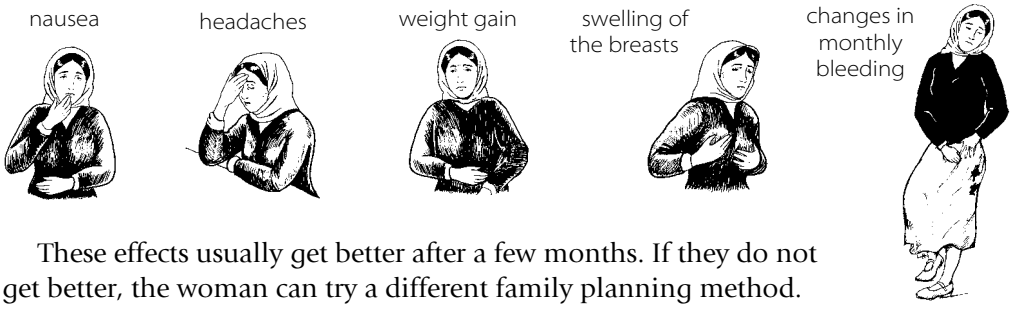
Some women should not use any hormonal method.

- Women who have ever had cancer of the breast or uterus.
- Women who might be pregnant already.
- Women who have very heavy monthly bleeding, monthly bleeding that lasts for more than 8 days, or bleeding from the vagina from an unknown cause.

These women should **not** use pills, injections, implants, or any other hormonal method.

Side effects

Hormonal methods sometimes have side effects. These effects are not dangerous, but they are often uncomfortable. Hormonal methods can make a woman have:



These effects usually get better after a few months. If they do not get better, the woman can try a different family planning method.

Birth control pills (oral contraceptives or "the pill")

Birth control pills have all the benefits and problems of hormonal methods listed on page 306.

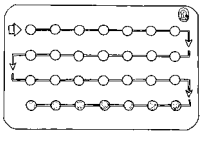
When a woman takes a birth control pill at the same time every day, this method is one of the most effective ways to avoid pregnancy.

There are many brands of birth control pills. Pills should be "low-dose." That means they should have 35 micrograms (mcg) or less of estrogen, and 1 milligram (mg) or less of progestin. Women should never use pills with more than 50 mcg of estrogen.

How to take birth control pills

A woman should take the first pill in a packet on the first day of monthly bleeding. If that is not possible, she should take the first pill anytime in the first 7 days after she starts her monthly bleeding.

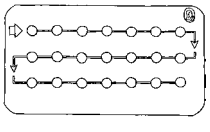
Pills come in packets of 21 or 28 tablets. If a woman is using a 28-day packet, she should take one pill every day. Women will usually have light monthly bleeding during the last 7 days of a pill packet. As soon as she finishes one packet, she should begin taking a new one.



28-day pill packet

(The last 7 pills in a 28-day packet are made of sugar. They have no hormones in them. Women take these pills to remember to take a pill each day.)

If a woman prefers not to bleed every month, it is safe to take only the hormone pills continuously for up to 3 months. When the woman reaches week 4 of her packet (the sugar pills) she can immediately begin a new packet of pills instead of taking the sugar pills. Then continue taking the hormone pills in the usual order.



21-day pill packet

If a woman is using a 21-day packet, she should take one pill every day for 21 days. She should then wait 7 days before starting a new packet. Usually, a woman will start her monthly bleeding after the 21st day. But even if she does not, she should start a new packet in 7 days.

The pills will not prevent pregnancy immediately. So during the first 7 days on pills, the woman should use condoms or some other backup method to avoid pregnancy.

It is best to take the pill at about the same time every day. Many women take the pill with food, especially if they feel some nausea during the first few months that they take it.

What if a woman forgets to take her pill?

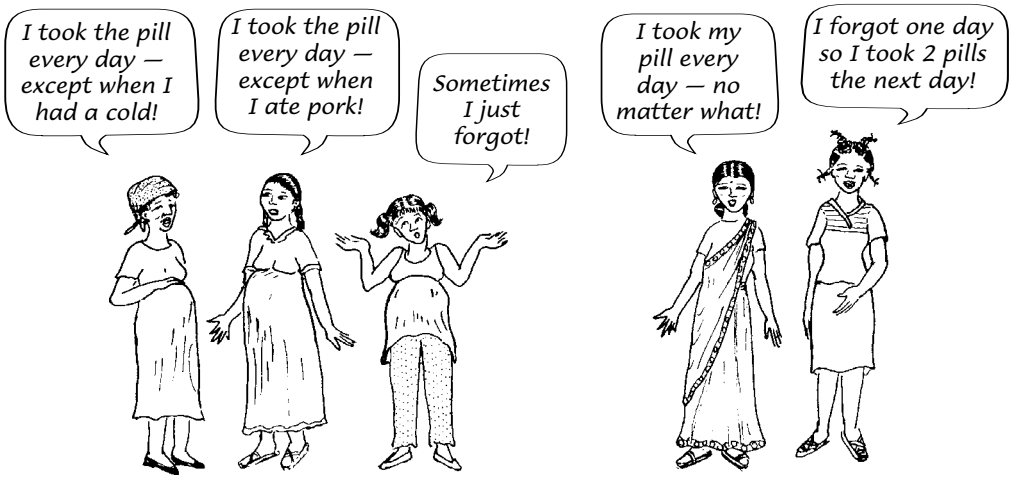
If a woman forgets to take 1 or 2 pills, she should take 1 as soon as she remembers. Then she should take the next pill at the regular time — even if she must take 2 pills in one day.

If a woman forgets to take 3 pills, 3 days in a row, she should take 1 pill right away. Then she should take 1 pill each day at her regular time.

If she is using a 28-day packet of pills, she should only take the hormonal pills, and should skip the sugar pills. If she is taking a 21-day packet of pills, she should start a new packet as soon as she finishes the one she is taking now.

To prevent pregnancy, she should use condoms any time she has sexual intercourse within 7 days of missing her pills.

Remember: Birth control pills will not be effective if they are only taken some of the time. A woman who uses birth control pills must take one pill every day, at the same time of day — even if she is taking other medicine, eating special foods, or is ill.

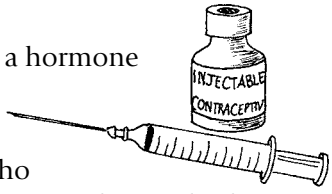

I took the pill every day — except when I had a cold!
I took the pill every day — except when I ate pork!
Sometimes I just forgot!
I took my pill every day — no matter what!
I forgot one day so I took 2 pills the next day!

WARNING! If a woman taking the pill gets any of these signs, she should get medical advice right away:

- chest pain and shortness of breath
- strong headaches
- numbness in arms or legs
- strong pain in one leg

For more information about specific birth control pills, see page 490.

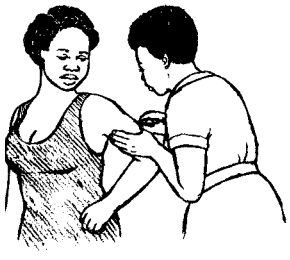
Injectable contraceptives



With this method, a health worker gives a woman a hormone shot to keep her from getting pregnant. One shot lasts 1 to 3 months.

Injections are very effective. Very few women who use this method become pregnant. Another advantage to this method is that a woman does not have to do anything before having sex. And no one except her health worker needs to know she is using a family planning method.

The disadvantages are similar to those for birth control pills — some women have weight gain, sore breasts, nausea, or unusual monthly bleeding. Many women who have injections have no monthly bleeding at all. These effects are not dangerous, but they may be uncomfortable. Another disadvantage is the woman must go to a health worker once every 1 to 3 months to get the injection. And like other hormonal methods, injections do not protect against HIV or other STIs.



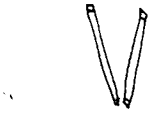
Most injections contain only progestin. *Depo Provera* and *Noristerat* are the most common brands. These injections are safe to use while breastfeeding, and are safe for other women who should not use estrogen (see page 306).

Some injections contain estrogen, but they cost more and are hard to find. They must be injected once every month. A woman using these injections will usually have a normal monthly bleeding.

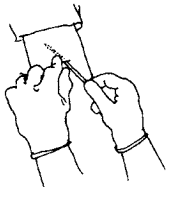
When a woman stops getting injections, it may take longer than usual (as much as a year or more) for her to get pregnant. Women should always be told this before getting injectable contraceptives. For this reason, injections are best for women who are sure they do not want to get pregnant in the next year or more.

Implants

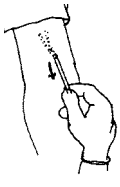
With this method, a trained health worker puts small, soft tubes of progestin under the skin of a woman's arm. The implant then prevents pregnancy for 3 to 5 years, depending on the type of implant. The implants must be replaced after those 3 to 5 years are over. If a woman wants to get pregnant before that time, the implant must be removed by a health worker.



Implants



Implants are put under the skin . . .



. . . and can be removed by a trained health worker.

A woman with implants does not have to do anything before sex to prevent pregnancy. Implants are very effective, although very fat women may not get the same protection from pregnancy as thin women. Implants only contain progestin — so they are safe for women who should not take estrogen. And they can be used safely while breastfeeding.

Implants have the same risks and side effects as other hormonal methods (see page 306). Most women who use implants have very irregular monthly bleeding, with spotting and bleeding between monthly bleeding. This usually gets better after a year of using this method. And like any hormonal method, implants do not protect against HIV or other STIs.

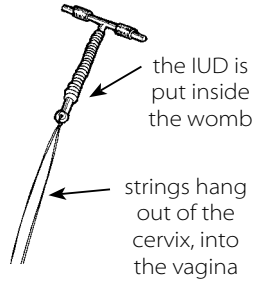
A woman cannot remove implants herself. They can only be removed by a trained health worker. And it may be difficult to find a health worker who knows how to remove them. Women should understand this before the implants are put in.

WARNING! Watch women with implants for these signs of dangerous health problems. **Get medical help if you find any of these signs:**

- arm pain near the implant
- pus, redness, or bleeding around the implant
- implant comes out
- monthly bleeding stops after being regular for several months

Intrauterine device (IUD, IUS)

The IUD is a small device made of plastic that is put inside the womb to prevent pregnancy. Different types of IUD have different names, such as IUCD, copper T, Mirena, or the loop. Chapter 21 explains more about IUDs and how to insert them.



Once the IUD is put in, it stays inside the womb until it is taken out by a trained person. IUDs must be replaced every few years. Different IUDs can be left in for different lengths of time.

Neither the woman nor man feel the IUD while having sex. A woman who uses an IUD does not have to do anything before having sex. And no one needs to know that the woman has an IUD inside.

The IUD often causes changes in monthly bleeding, depending on the type of IUD. The Copper T can cause heavier monthly bleeding with more painful cramping. This extra loss of blood can cause anemia. The Mirena causes monthly bleeding to become very light or stop altogether, but it can cause irregular bleeding and spotting.

Women who have STIs, vaginal or womb infections, or HIV or AIDS, should not use the IUD. These are some of the disadvantages or risks of the IUD:

- The IUD does not protect against HIV or other STIs. If a woman already has an STI when an IUD is inserted, that infection can spread to her womb. Womb infection can lead to infertility or other serious health problems.
- The IUD can cause miscarriage if a woman gets pregnant while using an IUD or if she has one put in when she is pregnant.
- The woman cannot put in or take out the IUD herself. A health worker must do it.

For these reasons, it is best if a woman who uses an IUD lives close to medical center.

WARNING! **A woman with an IUD should get medical help if any of these danger signs appear:**

- late or missed monthly bleeding or unusual spotting between monthly bleeding
- pain in the belly that does not go away, or pain during sex
- signs of infection: unusual discharge or bad smell from the vagina, fever, chills, feeling ill
- IUD strings get shorter or longer, are missing, or the IUD can be felt in the vagina

A woman with an IUD must check every month to be sure it is still in place. The best time to check is after her monthly bleeding.

First she should wash her hands. Then she should reach into the vagina with 2 fingers and feel for the strings of the IUD. They should be the same length each month.

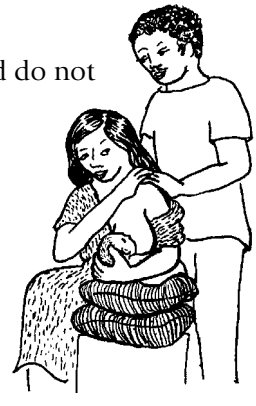
If the strings are shorter or longer, or if she cannot feel the strings at all, the strings may have moved up into the womb, or the IUD may have fallen out. In this case, the woman should use another method of family planning, and she should get medical help.

Sex without intercourse

There are many ways to have sex that do not cause pregnancy. Oral sex (mouth on genitals) and sexual touch (touching the genitals or other parts of the body) are both sexual activities that many couples enjoy. They have very low risk of passing HIV and other STIs and they cannot cause pregnancy. Anal sex also cannot cause pregnancy, although HIV and other STIs can pass very easily this way.

Avoiding all sexual intercourse is the most sure way to prevent pregnancy and can be a good way to reduce the risk of HIV and other STIs. Not having sexual intercourse may be very difficult for couples to practice for a long time.

Breastfeeding



In the first 6 months after birth, most women who breastfeed do not release eggs from their ovaries (see page 29), and so they cannot get pregnant when they have sex.

Women usually do not get pregnant if they are breastfeeding as often as the baby wants, including at night, and:

1. **the baby is less than 6 months old**, and
2. **the woman has not had any monthly bleeding since giving birth**, and
3. **the woman is giving the baby only breast milk**.

The woman can easily get pregnant if she is giving the baby formula, water, or other drinks. She may get pregnant if the baby goes longer than 6 hours between breastfeeding times.

The breastfeeding method does not protect against HIV or other STIs. Also, getting infected with HIV while breastfeeding creates a danger of passing HIV to the baby. If there is any chance that the mother's partner has HIV, they should use condoms each time they have sex.

Fertility awareness (natural family planning)

A woman can only get pregnant during her fertile time when an egg comes from her ovary into her tubes and womb — about once a month (see page 29). To use fertility awareness, a woman must watch her body's signs to understand when she is fertile. During the fertile time she and her partner must not have sexual intercourse (the penis inside the vagina). At these times, they can try other types of sex like oral sex or sexual touching. Or they can prevent pregnancy by using condoms or a diaphragm during the fertile time.

Natural family planning costs nothing and has no side effects. But it can be difficult to use. Women do not always know when they are fertile, and if they have one irregular cycle, they can easily get pregnant. This method usually works best when couples receive training before using it. Natural family planning does not protect against HIV or other STIs.

Natural family planning does **not** work well for women who do not have control over when they have sex. During a woman's fertile times, her partner must be willing to use condoms or a diaphragm — or not have sexual intercourse.

Women whose cycles are very different lengths each month should not use this method either. Women who recently gave birth or had an abortion should not use this method until their cycles are regular for several months.

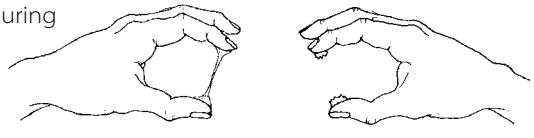
There are many ways to use fertility awareness. In this book we talk about the mucus method and the counting days method. These methods work best when they are both used together. But one method alone is better than nothing.

The mucus method

With the mucus method, a woman checks the mucus from her vagina every day to see if she is fertile. On her fertile days, the mucus is stretchy and slimy, like raw egg.

To check the mucus, a woman should wipe the vagina with a clean finger, paper, or cloth. Then she should look for mucus.

Clear, wet, slippery mucus comes during the fertile time. Do not have sexual intercourse.



White, dry, sticky mucus (or no mucus) comes during other times of the month. It is probably OK to have sexual intercourse 2 days after the first dry day.

After 2 or 3 months of practice, a woman can easily recognize these changes in her mucus.

How to use the mucus method

- Check the mucus at the same time every day. Check before having sex.
- Do not have sexual intercourse on any day you feel slippery mucus. Or use a condom or diaphragm on those days.
- Do not have sexual intercourse until 2 days after the last day that you have clear, slippery mucus.
- Do not douche or wash out the vagina at any time. This will wash the mucus away.

Use another method of family planning if you have a vaginal infection or if you are not sure whether it is a fertile time.

The counting days method

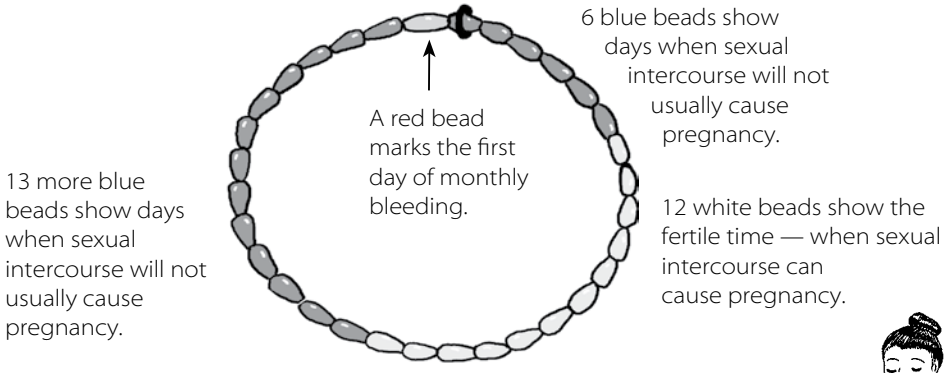
With the counting days method, a woman does not have sexual intercourse during any time that she might be fertile. This method can only be used by women with regular cycles that last between 26 and 32 days. This means that the time from the first day of one monthly bleeding to the first day of her next monthly bleeding must be at least 26 days, and no more than 32 days.

This method will usually work for a woman who has nearly the same number of days from one monthly bleeding to the next (regular cycles). But if a woman has one cycle of a different length, she can easily get pregnant. It is common for a woman to have a cycle of a different length when she is sick or feeling a lot of stress. When a woman is sick or feeling stress, it is best for her to use a different family planning method until she is well and her cycle is normal.

How to use the counting days method

For this method to work, the woman cannot have sexual intercourse from the 8th day of her cycle through the 19th day of her cycle. If she has sexual intercourse during this time, she must use another method of family planning.

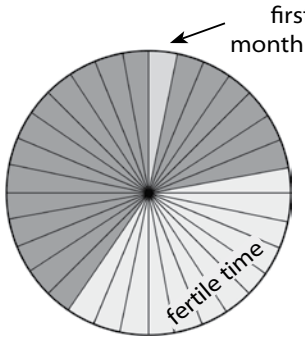
Women can use beads, a chart, or some other tool to remember their fertile days. String 32 beads, of 3 different colors, into a necklace. Each color bead can represent a different part of the woman's cycle.


6 blue beads show days when sexual intercourse will not usually cause pregnancy.
A red bead marks the first day of monthly bleeding.
13 more blue beads show days when sexual intercourse will not usually cause pregnancy.
12 white beads show the fertile time — when sexual intercourse can cause pregnancy.

On the first day of her monthly bleeding, the woman puts a ring or string around the red bead. Each day, she moves the ring past one bead. When the ring is on any of the white beads, she may get pregnant if she has sexual intercourse. Whenever she starts her next monthly bleeding, she moves the ring back to the red bead at the start.

You may be able to buy a necklace like this called *CycleBeads*.

Or a woman can make a chart with 32 sections — 1 for each day of her cycle. She can mark off each day on the chart to remember when she can become pregnant.



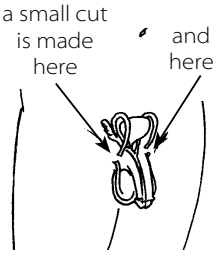
Sterilization

Sterilization is an operation that makes it almost impossible to have a baby. This method is permanent. It is only good for someone who never wants to have another baby.

These operations are done at medical centers. The surgery is fast and safe. Sterilization is almost always completely effective. A doctor can try to undo a sterilization, but that operation is expensive and often does not work.

Sterilization does not protect men or women against HIV and other STIs.

Sterilization for men (vasectomy)

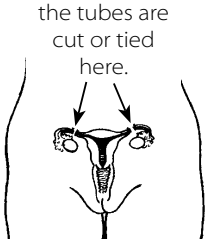


A vasectomy is a simple operation. It takes only about 10 minutes. A health worker inserts a tool through the skin of the testicles to cut the tubes that carry sperm to the penis. The skin heals quickly and the testicles are not harmed.

The operation does not change a man's ability to have sex or feel sexual pleasure. He still ejaculates (comes), but sperm cannot get from the testicles into the semen. For about 3 months, there are still sperm in the tubes, so the couple must use another method of family planning.

Sterilization for women (tubal ligation)

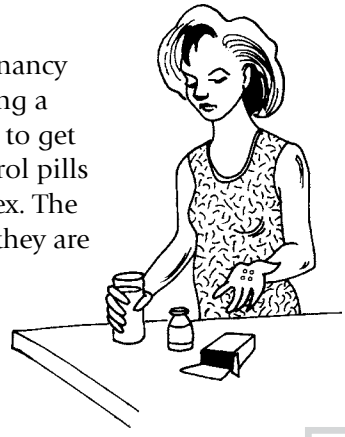
Tubal ligation is a little more complicated than vasectomy, but it is still very safe. A health worker inserts a tool through the skin near the belly button to cut or tie the tubes that carry the woman's eggs to her womb. The operation takes about 30 minutes.



A new method called Essure does not require surgery. A tiny, flexible metal and plastic coil is inserted through the vagina and uterus into each tube. Scar tissue then grows over these inserts and permanently blocks the tubes.

Tubal ligation does not change a woman's monthly bleeding or her ability to have sex and sexual pleasure.

Emergency contraception



Emergency contraception is a way to avoid pregnancy after having sex. If a woman has sex without using a family planning method, and she does not wish to get pregnant, she can take a high dose of birth control pills as soon as possible — within 5 days of having sex. The sooner a woman takes the pills, the more likely they are to work.

This is not a good method to use every time a woman has sex. Emergency contraception often causes nausea or headaches. It is not as dependable as other methods.

How to give emergency contraceptive pills

Most birth control pills contain ethinyl estradiol (estrogen) and levonorgestrel (progestin). The number of pills you take depends on how much ethinyl estradiol the pill contains.

- give 100 mcg (micrograms) ethinyl estradiol by mouth.
  Then 12 hours later, give another 100 mcg.

Using low-dose pills *(with 30 to 35 mcg ethinyl estradiol)*

- give 4 pills. Then 12 hours later, give 4 more pills.

Using high-dose pills *(with 50 mcg ethinyl estradiol)*

- give 2 pills. Then 12 hours later, give 2 more pills.

Emergency pills can give women headaches or severe nausea. Women can try eating something at the same time as taking the pills. If a woman vomits within 3 hours of taking the pills, she should take the same dose again.

Progestin-only pills

In some communities, women can buy pills specially made for emergency contraception. They have a higher dose of hormones, so women do not have to take as many pills. They may be made with only progesterone and no estrogen. Progesterone-only pills do not usually cause nausea.

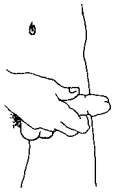
- give 0.75 mg levonorgestrel by mouth.
  Then 12 hours later, give another 0.75 mg.

Emergency IUDs

An IUD can also be used as emergency contraception. A trained health worker must insert the IUD within 5 days of a woman having sex. This will usually prevent a pregnancy. The IUD can then be left in to prevent future pregnancies. But this method should not be used by a woman who might have an STI.

Pulling out (withdrawal)

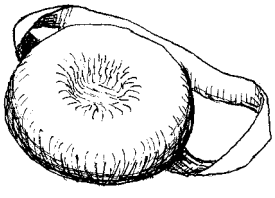
In this method, a man pulls his penis out of the woman's vagina and away from her genitals before he ejaculates. This prevents sperm from getting inside the vagina.



If a man is willing and able to pull out every time before he ejaculates, this method can work reasonably well. It costs nothing and is always available. But a man may not want to or be able to pull out before the sperm comes. This means the woman may get pregnant. Also, a woman may worry about whether the man will pull out in time, and feel less pleasure because of that worry. This method is more effective when combined with another method like spermicide or a diaphragm.

This method may give some protection against HIV and other STIs.

Contraceptive sponge



The contraceptive sponge is a round circle of foam that is soaked in spermicide. It should be wet with clean water before inserting it deep in the vagina with a finger. It should be left in place for at least 6 hours after sex but not longer than 24 hours. It can be removed by reaching in and pulling the attached loop. This method does not protect against STIs and should be used only by women who know their partner does not have HIV, as the spermicide in the sponge can irritate the skin of the vagina and allow the virus to enter the body more easily. Women may also get more yeast or bladder infections with this method.

Homemade sponge method

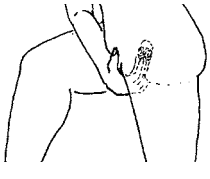
With this method, a woman puts a sponge soaked in vinegar, lemon, or salt deep in the vagina before having sex. This method is not very effective, but it may prevent some pregnancies. It provides no protection against HIV or other STIs.

How to make a homemade sponge

1. Mix: 2 tablespoons of vinegar with 1 cup of clean boiled water ***or*** 1 teaspoon of lemon juice with 1 cup of clean boiled water ***or*** 1 spoon of salt with 4 spoons of clean boiled water

2. Wet a boiled piece of sponge about the size of an egg with one of these liquids.

3. Push the sponge deep into the vagina no more than 1 hour before having sex.



4. Leave the sponge in for at least 6 hours after having sex. Then take it out.

This method may irritate the vagina, which can make it easier for a woman to get STIs. The woman should stop using this method if it makes her vagina dry, sore, or itchy.

The sponge can be difficult to take out, but it cannot get lost in the vagina. It may be easier to take out if the woman squats and pushes down as if she is passing stool, while she reaches into her vagina. If she has trouble taking it out, she can tie a clean ribbon or string around it for the next time.

The sponge can be washed, boiled, and used again many times. Keep it in a clean, dry place. The liquid can be made ahead of time and kept in a bottle.

Methods that do not prevent pregnancy

These are some commonly used family planning methods that do not work. Some are also dangerous.

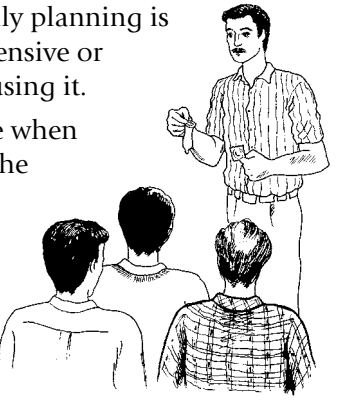
- Wearing charms will not prevent pregnancy. Neither will spells or prayers.
- Urinating after sex will not prevent pregnancy (though it may help prevent urinary tract infections).
- Washing out the vagina (douching) after sex does not prevent pregnancy. Some herbs or harsh chemicals used for douching can also injure the vagina.

Making family planning work for the community

Men must also be responsible for family planning

When men and women choose family planning together, it is much easier to use family planning successfully. Because men do not get pregnant, they do not always take the responsibility that women do for pregnancy and family planning. Many men think of family planning as the woman's problem.

Some men do not want their partners to use family planning. They may want lots of children, or they believe family planning is wrong, or they may feel that family planning is expensive or inconvenient to use and do not see any benefits to using it.



When men support the right of women to decide when and if they want to be pregnant, women can make the choice to use family planning if they want to. Then women and men can both have sex with less worry if they do not want a child.

As a midwife, you may be able to influence men in your community to take more responsibility for family planning. The number

of children in the family will affect the health and well-being of every family member. Encourage men to:

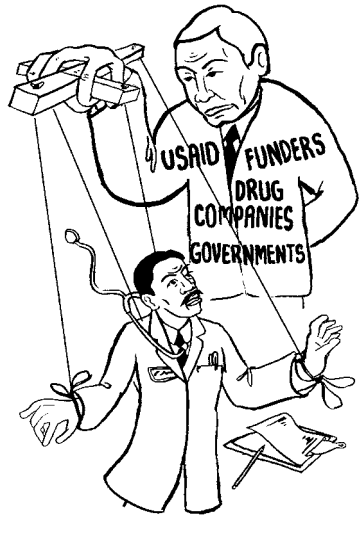
- use condoms.
- support their partners in whatever family planning method they choose.
- talk to other men in the community about the importance of family planning.

Family planning programs that work

Midwives help individual women and men decide about family planning methods. In this work, they may find that family planning is difficult to get in their communities. Midwives may then get involved in making family planning programs work better.

What makes a family planning program work to improve a woman's health, her knowledge, and her control over her body?

- A wide choice of methods, for both men and women, with clear information about benefits and risks.
- Good testing to know if a woman has a health problem, such as high blood pressure, that means she should not use a certain method. Good follow-up care to make sure a method is not causing problems and to help the woman try another if it is.
- Health services that include family planning along with care before, during, and after birth, support for breastfeeding, treatment for infertility, and treatment and prevention of STIs.
- Encouragement for men and women to share responsibility for birth control.
- Respect for local health providers and safe traditional practices, including traditional methods of regulating monthly bleeding and family planning. Midwives often have good experience combining traditional methods with modern methods of care.
- Freedom from pressure and coercion. Coercion means a health worker or someone else pushes a woman to use family planning or a certain method when she does not want to. This happens when programs limit the choice of method or set targets (a certain number of one method must be given). Targets make health workers push people to accept a method against their will or without full information. These can be problems with family planning programs funded by large groups outside the community, such as international donors and national governments.



Health workers should be free from pressure about which methods to offer women.

CHAPTER 18
Sexually transmitted infections

In this chapter:

What are sexually transmitted infections? 321

How STIs are passed 322
Treating STIs 322

Discharge from the vagina 323

Chlamydia and gonorrhea (clap, the drip, gono, VD) 323
Trichomonas (trich) 326
Yeast (candida, white discharge, fungus) 326
Bacterial vaginosis (BV, gardnerella) 328

Sores on the genitals (genital ulcers) 329

Syphilis 329
Chancroid 331
Genital herpes 331
HPV (genital warts) 333

STIs that affect the whole body 334

HIV infection and AIDS 334
Hepatitis B 336

Teaching women how to prevent STIs 336

How to help stop STIs in your community 337

Sexually transmitted infections
and other infections of the genitals

CHAPTER 18

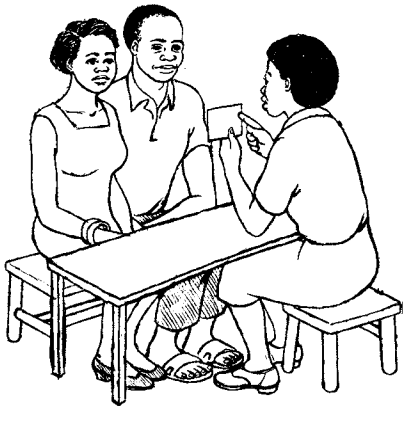
What are sexually transmitted infections?

Sexually transmitted infections (STIs) are infections that are passed from one person to another during sex. Men, women, and their children can all be affected by STIs. Some common STIs are gonorrhea, chlamydia, trichomonas, syphilis, chancroid, herpes, hepatitis B, and HIV.

If a person has any of these signs, he or she may have an STI:

- bad-smelling discharge
- itching genitals
- painful genitals
- sores or blisters on the genitals
- pain in the pelvis or pain during sex

It is also very common to have an STI and have no signs at all. Many women and men have STIs but do not know it.



Untreated STIs can lead to very serious health problems, so anyone with an STI needs treatment as soon as possible. A woman with an untreated STI can develop a tubal pregnancy (see page 113), cancer of the cervix, or can become infertile (see page 30). An untreated STI in a pregnant woman can cause a baby to be born too early, too small, blind, sick, or dead. A person who has one STI can more easily get another — including HIV.

This chapter describes the most common STIs and explains how to treat them and prevent them. It also describes some other infections of the genitals that are common but are not transmitted sexually.

How STIs are passed

To get an STI, a person must have close contact with someone who is already infected. The contact can be sexual intercourse (sex with the man's penis inside the woman's vagina), anal sex (penis in anus), or less often, oral sex (mouth on genitals or anus). STIs can sometimes pass from just rubbing an infected penis or vagina against another person's genitals. Many people get STIs from people who have no signs of being infected.

STIs can be prevented by not having sex with anyone who has an infection. Many STIs can be prevented by using condoms. To learn about preventing STIs, see pages 334 and 336.

Babies can also be infected with an STI through the mother's blood during pregnancy or during birth when they pass through the vagina.

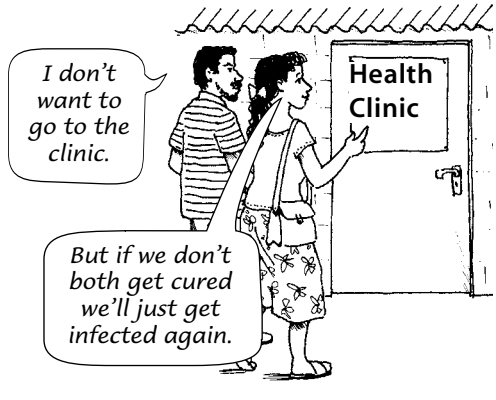
Treating STIs

Most STIs will get better or go away if the person with the STI gets treated right away. But many women do not get treatment. A woman may not be able to afford treatment. She may feel embarrassed or ashamed. She may be afraid that her husband will think she had sex with someone else.

For these reasons, the way you care for a woman who may have an STI is very important. If a woman comes to you for help, do not tell anyone else what she told you. She may not come to you for help again. Do not criticize her. Answer her questions honestly, and as best as you can. If you cannot treat her infection, help her find low-cost care nearby.

Remember:

- Treat STIs as soon as possible. Early treatment for STIs costs less and is more effective than later treatment.
- Treat partners too. Treating a woman for an STI will not help if her partner is still infected.
- Make sure the woman takes all the medicine she is given. Even if the signs of infection go away, a person must take all the medicine to cure the infection completely.



Note: All the medicines listed in this chapter are safe to take during pregnancy or while breastfeeding unless we include a warning that says they are not safe. Women who are not pregnant or breastfeeding may be able to take other, more effective drugs. See the book ***Where Women Have No Doctor*** or talk to a pharmacist to find out about other drugs.

Discharge from the vagina

It is normal for women to have some discharge (wetness) from the vagina. This discharge is the way the vagina cleans itself. The discharge changes during the days of the monthly cycle and also during pregnancy.

But a major change in the amount, color, or smell of the vaginal discharge can mean there is an infection of the genitals. This infection could be an STI, or could be another type of infection.

In this chapter, we organize the different infections a woman can have by the symptoms the infection causes. Discharge from the vagina can be a symptom of chlamydia, gonorrhea, trichomonas, or a vaginal infection that is not sexually transmitted.

Chlamydia and gonorrhea (clap, the drip, gono, VD)

Chlamydia and gonorrhea are both serious illnesses. But they are easy to cure if they are treated early. If they are not treated, they can lead to severe infection or infertility in women and men.

Signs in a woman

Signs can start weeks or months after having sex with an infected person.

- yellow or green discharge from the vagina or anus
- pain or burning when urinating
- fever
- pain in the lower belly
- pain or bleeding during sex
- or no signs at all

Both men and women can have chlamydia or gonorrhea with no signs. And even a person with no signs can pass chlamydia or gonorrhea to another person.

Signs in a man

Signs usually start 2 to 5 days after a man has sex with an infected person.

- discharge from the penis
- pain or burning while urinating
- pain or swelling in the testicles (balls)
- or no signs at all

Treatment

If possible, every pregnant woman should be tested for chlamydia and gonorrhea. If the test shows she has one or both of these infections, **she and her partner should be treated**. But if it is not possible for her to be tested, and she or her partner have signs of the infection, they should be treated anyway. It is better to treat someone who might be infected — even if you do not know for sure.

To treat chlamydia

- give 500 mg erythromycin ..... by mouth, 4 times a day for 7 days

or

- give 500 mg amoxicillin ..... by mouth, 3 times a day for 7 days

To treat gonorrhea

- inject 125 mg ceftriaxone ..... in the muscle, 1 time only

or

- give 400 mg cefixime ..... by mouth, 1 time only

It is very common to have chlamydia and gonorrhea at the same time. If you are not sure whether the woman has chlamydia or gonorrhea, or if she might have both, treat her and her partner for both infections.

Note: In the past, penicillin was used to cure gonorrhea. Now, in many places, penicillin will not kill gonorrhea anymore because of drug resistance (see page 464). Find out which drugs work best in your area.

Problems in babies from chlamydia and gonorrhea

Women who have chlamydia or gonorrhea when they give birth can pass these infections on to their newborn babies. This can cause eye infection leading to blindness, or serious lung problems. A chlamydia or gonorrhea infection in the eyes usually causes a thick yellow discharge from the eyes within the first month. To prevent eye infection in babies, put antibiotic ointment into each baby's eyes after birth (see page 260).

If a baby has a chlamydia infection

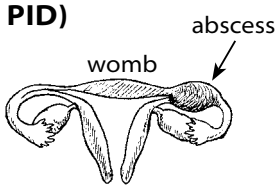
- give 30 mg erythromycin syrup ..... by mouth, 4 times a day for 14 days

If a baby has a gonorrhea infection

- inject 125 mg ceftriaxone ..... in the thigh muscle, 1 time only

If you cannot test to find out which disease is causing the infection, give medicines for both.

Pelvic infection (pelvic inflammatory disease, or PID)



pelvic infection

Pelvic inflammatory disease is a serious infection of a woman's womb, tubes, or ovaries.

A pelvic infection can happen when a woman has an STI, usually chlamydia or gonorrhea, that is not treated. It can also happen to a woman after an abortion or after a birth. Germs get into the woman's womb, tubes, or ovaries and cause infection there.

If a pelvic infection is not treated, it can cause long-term pain for the woman. Women who have had pelvic infections have a greater chance of having a tubal pregnancy or of becoming infertile. Pelvic infection can even lead to death.

Signs of pelvic infection

- pain in the lower belly
- high fever (more than 38°C or 100.4°F)
- feeling very ill or weak
- bad-smelling green or yellow discharge from the vagina
- pain or bleeding during sex

To treat pelvic infections

A woman with a pelvic infection should take 3 medicines at once. One medicine to treat chlamydia, one to treat gonorrhea, and another antibiotic — metronidazole:

For chlamydia

- give 500 mg erythromycin ..... by mouth, 4 times a day for 14 days

or

- give 500 mg amoxicillin ..... by mouth, 3 times a day for 14 days

AND for gonorrhea

- inject 125 mg ceftriaxone ..... in the muscle, 1 time only

or

- give 400 mg cefixime ..... by mouth, 1 time only

AND to kill any other germs that cause pelvic infection

- give 400 to 500 mg metronidazole ..... by mouth, 3 times a day for 14 days

Do not take metronidazole in the first 3 months of pregnancy.
Do not drink alcohol during the time you are taking metronidazole.

If the woman is not better after 2 days and 2 nights (48 hours), or if she has high fever or vomiting, she should go to a medical center right away. She needs strong IV medicines (in the vein).

Trichomonas (trich)

Trichomonas is very uncomfortable and itchy. Men usually do not have any signs but they can carry it in the penis and pass it to a woman during sex.

Trichomonas is not dangerous, but it can irritate the vagina, which can make it easier for a woman to get other STIs including HIV.

Signs of trichomonas

- bubbly gray or yellow discharge
- bad-smelling discharge
- red and itchy genitals and vagina
- pain or burning while urinating

To help the woman feel better, she can take a **sitz bath**. She should sit in a pan of clean, warm water for 15 minutes as often as possible. This is soothing to the genitals and will speed healing. She should not have sex until she and her partner are finished with treatment and all the signs are gone.

To treat trichomonas

If the woman is pregnant:

She should wait until after the end of the third month for treatment. This drug is not safe in the first 3 months of pregnancy. After the third month:

- give 400 to 500 mg metronidazole .....by mouth, 2 times a day for 7 days

Also treat the woman's partner with 2 g metronidazole by mouth, 1 time only.

Yeast (candida, white discharge, fungus)

Yeast is not usually sexually transmitted, but it is a very common vaginal infection. It is especially common in pregnant women or women who are taking antibiotics or birth control pills. Men can also get yeast infections.

Signs of yeast

- itchy genitals
- white, lumpy, sticky discharge
- bright red skin outside and inside the vagina that sometimes bleeds
- a burning feeling when urinating
- a smell like mold or bread dough from the vagina

Treatment

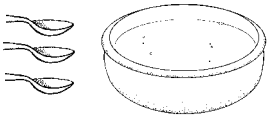
Yeast is not dangerous, but it is best to treat yeast in a pregnant woman before the birth, or the baby can get thrush (see page 290). Yeast can often be cured using natural remedies.

Natural remedies for yeast infection

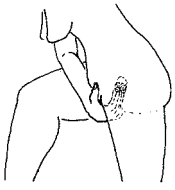
Mix vinegar or yogurt in a pan of clean warm water. The woman should sit in this liquid 2 times a day until she feels better.

or *she can also try making this mix:*

Mix 3 tablespoons of vinegar with 1 liter (quart) of boiled cool water.



Soak a piece of clean cotton wool in this mixture and insert the cotton into the vagina every night for 3 nights. Remove the cotton each morning.



If natural remedies do not work, try one of these medicines:

To treat yeast infection

soak a clean piece of cotton in gentian violet 1%:

- insert the cotton ..... into the vagina, every night for 3 nights. Remove the cotton each morning.

or

- put one 200 mg miconazole insert ..... high in the vagina, each night for 3 nights

or

- put one 100,000 Units nystatin insert ..... high in the vagina, each night for 14 nights

or

- insert 1 full applicator of clotrimazole 1% cream ..... into the vagina, each night for 7 nights

Prevention

Wearing loose clothing and underclothes made of cotton, rather than polyester or nylon, lets air around the genitals. This helps prevent yeast. Wash or change the underclothes often. Do not put soap in the vagina when bathing. Do not douche.

Bacterial vaginosis (BV, gardnerella)

Bacterial vaginosis is not sexually transmitted. It is not usually dangerous, but it can cause pregnant women to have their babies too soon or get an infection after the birth.

Signs of bacterial vaginosis

- more discharge than usual
- a bad, fishy smell from the vagina, especially after sex
- mild itching

To treat bacterial vaginosis

If the woman is pregnant:

She should wait until after the end of the third month. This drug is not safe in the first 3 months of pregnancy. After the third month:

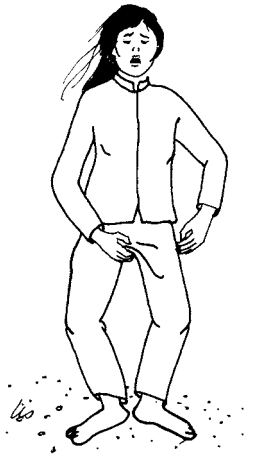
- give 400 to 500 mg metronidazole .....by mouth, 2 times a day for 7 days

or

- put one 500 mg metronidazole insert .....high in the vagina, every night for 7 nights

Itching of the genitals

Itching of the genitals can have many causes. Itching around the opening of the vagina could be yeast or trichomonas.



Itching in the hair of the genitals or close to the genitals could be caused by scabies or lice. Scabies or lice can be treated with local remedies, or with medicines found in most pharmacies. For more information, see ***Where There Is No Doctor*** or another general medical book.

Some itching is caused by soaps or deodorants that have perfume in them. It can also be caused by plants and herbs that are used for douching or washing out the vagina. Wash with plain water and see if the itching goes away.

Sores on the genitals (genital ulcers)

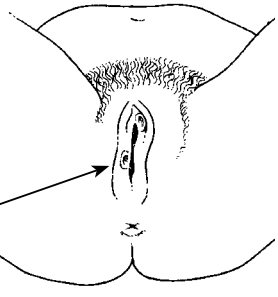
Most sores on the genitals are sexually transmitted. (There can be other causes of sores on the genitals — like boils or injuries.)

Sores on the genitals should be kept clean. Wash them with soap and water. Dry them carefully. Wash any cloth that you dry them with before you use it again.

WARNING! **When a person has a sore on the genitals, it is easy to get other infections through those sores** — especially HIV. The best way to prevent passing the infection to another person is to avoid sex until the sores heal.

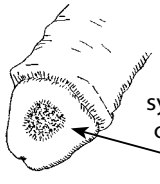
Syphilis

Syphilis is a serious STI that affects the whole body. It can last for many years, getting worse and worse. Syphilis can be cured if it is treated early.



Signs of syphilis

1. The first sign is a sore that may look like a pimple, a blister, or an open sore. It appears 2 to 5 weeks after sexual contact with a person who has syphilis. This sore is full of germs, which are easily passed on to another person. The sore does not hurt, and if it is inside the vagina, a woman may not know she has it. But she can still infect anyone she has sex with. The sore lasts for only a few days or weeks and then goes away. But the infection is still there and continues to spread throughout the body.



2. Weeks or months later, the infected person may get a sore throat, mild fever, mouth sores, swollen joints, or a rash — especially on the hands, feet, belly, and sides. During this time the person can pass the disease to others by simple physical contact like kissing or touching, because the syphilis germs are on the skin.

3. All of these signs usually go away by themselves, but the disease continues. If a person with syphilis does not get treatment early, the syphilis germs can cause heart disease, paralysis, mental illness (craziness), and death.

Syphilis and pregnancy

If a woman has syphilis when she is pregnant, her baby can be born too early, deformed, or dead. If possible, every pregnant woman should get a blood test to check for syphilis — especially if she has ever had sores on her genitals.

To treat syphilis

- inject 2.4 million Units benzathine benzylpenicillin.....in the muscle, 1 time only

or

if the person is allergic to penicillin:

- give 500 mg erythromycin .....by mouth, 4 times a day for 14 days

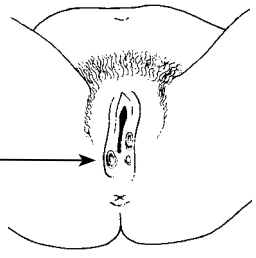
(Erythromycin is not always effective against syphilis. You may need to treat the woman with tetracycline after she finishes breastfeeding.)

If the person has had syphilis for 2 years or more, get medical help. She needs different medicines.

WARNING! **It is very hard to tell the difference between syphilis and chancroid** (see page 331). If you are not sure whether the woman has syphilis or chancroid, or if she might have both, you should give her benzathine penicillin **and** erythromycin.

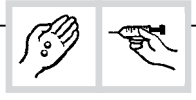
Chancroid

Chancroid is an STI that causes sores on the genitals. It is easily confused with syphilis.



Signs of chancroid

- one or more soft, painful sores on the genitals or anus that bleed easily
- enlarged, painful glands (buboes) in the groin
- slight fever



To treat chancroid

- give 500 mg erythromycin ..... by mouth, 4 times a day for 7 days

or

- inject 250 mg ceftriaxone ..... in the muscle, 1 time only

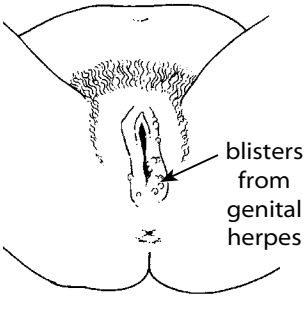
Genital herpes

Genital herpes is a virus that causes painful blisters which burst and turn into sores on the skin. Herpes is spread when the sore on one person touches another person's skin — usually during sexual intercourse. Genital herpes usually affects the genitals or anus. Rarely, the sores may spread to the mouth during oral sex.

Note: Some sores on the mouth — called cold sores — are caused by another type of herpes. These sores may be passed from the mouth to the genitals during oral sex.

Signs of herpes

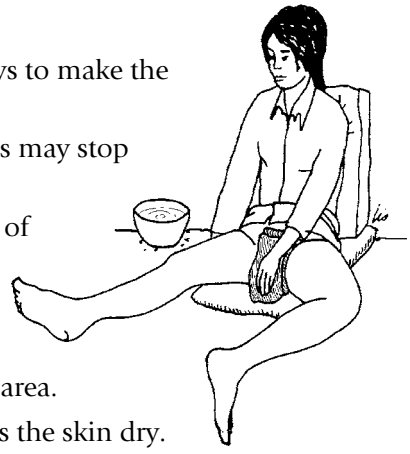
- tingling, itching, or pain on the genitals
- small blisters that burst and form painful open sores on the genitals



Once a person has the virus, he or she can get sores many times. The first time a person has herpes sores, they can last 3 weeks or more. The person may also have fever, headaches, body aches, chills, and swollen lymph nodes near the genitals. The next infections are usually not as bad as the first one.

To stop the spread of herpes, people should not have sex when they have a sore. Condoms may prevent the spread of herpes, if the condom is covering the sore. Condoms for women may work even better because they cover more of the genitals.

Treatment



There is no cure for herpes but there are some ways to make the sores feel a little better:

- Put ice on the sore as soon as you feel it. This may stop the sore from getting worse.
- Soak a cloth in cooled black tea or tea made of cloves. Hold the wet cloth on the sores.
- Sit in a pan or bath of clean cool water.
- Make a paste by mixing baking soda or cornstarch with water and put it on the sore area.
- Apply witch hazel or a local plant that makes the skin dry.

The pain and sores of a first outbreak can be lessened with medicines.

For a first herpes outbreak
- give 400 mg acyclovir ..... by mouth, 3 times a day for 7 to 10 days

For continuing herpes outbreaks
- give 400 mg acyclovir ..... by mouth, 3 times a day for 5 days

For a woman with more than 6 herpes outbreaks a year
- give 400 mg acyclovir ..... by mouth, 2 times every day for 1 year. Then stop and see if the medicine is still needed.

For a pregnant woman who has had herpes outbreaks in the past,
- give 400 mg acyclovir ..... by mouth, 2 times every day during the last month of pregnancy.

To help with pain
- give 500 to 1000 mg paracetamol ..... by mouth, every 4 hours

A person with a lot of stress or other health problems is likely to get sores more often. So if possible, people with herpes should get plenty of rest and eat healthy food.

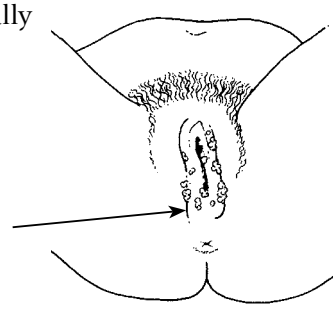
WARNING! **Herpes is very dangerous for the eyes and can cause blindness.** After touching a herpes sore, always wash your hands with soap and water.

Herpes and pregnancy

It is possible for herpes to be passed from mother to baby. This usually happens during delivery if the mother has herpes sores on the vagina at the time of birth. A first-time infection during pregnancy is even more likely to pass to the baby. For this reason, a woman in labor with an active herpes sore should give birth in a hospital, usually by caesarean surgery. The risk of passing herpes during delivery can be reduced or prevented by treating a first-time herpes outbreak immediately with acyclovir, whenever during pregnancy it occurs. A woman who already has had herpes can use acyclovir daily during the last month of pregnancy.

HPV (genital warts)

HPV is a virus that can cause warts to grow on the genitals or anus. It is also possible to have warts and not know it, especially if they are growing inside the vagina. The warts are not dangerous, but they can be uncomfortable.



Signs of HPV

- Itching.
- Small, dry, white or brown bumps on the genitals or anus. The bumps have a rough surface and do not hurt.

To test for HPV: touch the warts with a mixture of plain vinegar and water. The warts will turn a whitish color if they are caused by HPV.

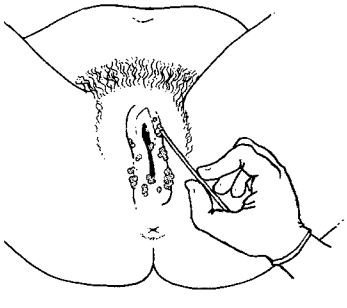
WARNING! **Large, flat, wet growths that look like warts are not usually HPV. They may be caused by syphilis.** Anyone with these growths should be tested for syphilis. Do not use the following treatment.

Treatment

1. To protect the healthy skin, put petroleum gel *(Vaseline)* or another greasy ointment on the skin around each wart.
2. With a small stick, put a little trichloroacetic acid (TCA) 80% to 90% solution or bichloroacetic acid (BCA) on the wart. Leave the acid on until the wart turns white. Be careful not to spill the acid on the healthy skin. Wash the acid off after 30 minutes or if the burning feeling is very painful.

   The acid should burn the wart off and leave a painful sore where the wart used to be.

   Usually, you must repeat the treatment once a week for a few weeks before the wart goes away completely. Keep the sore clean and dry until it heals. The woman should also not have sex until the sore heals.



The types of HPV that cause cancer in a woman's cervix are not the same types of HPV that cause warts. See page 380 to learn how to test a woman's cervix for HPV.

A vaccine called Gardasil is now available which protects against the most dangerous types of HPV, as well as the HPV viruses that cause most genital warts. The vaccine is a series of 3 injections that can be given to young women between the ages of 9 and 26. It should not be given during pregnancy, and cannot be used to treat a woman who already has HPV.

STIs that affect the whole body

HIV infection and AIDS

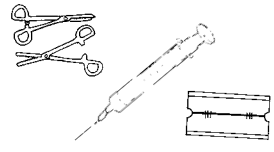
HIV is a virus that attacks the immune system. This is the part of our bodies that fights disease. HIV infection makes it more difficult for our bodies to fight off illness, which we are usually doing all the time. People with HIV can become sick very easily with diseases such as diarrhea, pneumonia, tuberculosis, cancer, and other infections. HIV cannot be cured, but it can be treated with medicines so the person does not get sick as easily. A person who is able to get treatment, eat well, and care for her body, mind, and spirit can live a much longer and healthier life.

HIV spreads when infected blood, breast milk, wetness from the vagina, or semen of someone who has HIV gets into another person's body. This happens mainly through:

sex with someone who has HIV.

an infected mother to her unborn child.

dirty needles, instruments or cutting tools.



In places where blood has not been tested for HIV, people can also get HIV from a blood transfusion. Sometimes mothers with HIV also pass HIV to their babies through breast milk (see page 293).

Signs of HIV and AIDS

People with HIV may not have any signs for a long time, up to 10 years. And even without signs of illness, they can still spread HIV to others. The only sure way to know someone has HIV is with an HIV test.

Someone with AIDS has lost her ability to fight infections so much that she develops many illnesses, including serious and rare illnesses no one usually gets without HIV, such as Kaposi's Sarcoma (a cancer). Another sign of AIDS is a blood test that shows the immune system is very weak.

To prevent the spread of HIV, men and women should:

- be tested for HIV.
- get other infections treated.
- use condoms with any sex partner who has HIV or whose HIV status they do not know.
- not use syringes, needles, or other tools that could be dirty. Only cut skin with sterilized tools (see page 59). This includes the tools used for piercings, acupuncture, tattoos, scarring, or circumcision.
- get treatment for HIV.

Two people who are both HIV negative and completely faithful to each other can have sex without using condoms and not get HIV from sex.

Staying Healthy with HIV

When a woman's immune system is being attacked by HIV, it is very important for her to prevent and treat other infections:

- If she has any signs of other STIs, like itching, a rash, a strange discharge or sores around the genitals, she should see a health worker.
- She needs to eat more food and have a healthy diet (see page 33). Taking a multivitamin pill may also help her.
- She needs to protect herself from tuberculosis (TB). People with HIV die more from TB than any other illness. A woman with HIV should stay away from people with active TB, and if she develops signs of TB, she should see a health worker right away. Signs of TB are coughing, night sweats, fever, or losing a lot of weight.
- She should drink only water that is free from germs which could cause diarrhea or other problems.

Women with HIV also need emotional support. Encourage them to seek support from people they trust. They can learn a lot from others who have HIV.

A woman with HIV who is starting to become ill (for example with cracks and sores around the mouth, weight loss, itching rashes, or many colds) can take cotrimoxazole every day to protect her from many infections and help her immune system stay healthy longer. See wpage 478.

If a woman can, she should get a blood test called a CD4 count. This test shows how strong our immune system is by counting CD4 cells. The higher the number is, the better the body can fight infections. A woman whose CD4 count is under 350 needs treatment for her HIV with HIV medicines called ART.

Medicines that control HIV

Medicines called antiretroviral therapy, or ART, can make people with HIV much healthier and help them live much longer. These medicines also help prevent HIV infection for a baby during pregnancy and labor.

ART must be taken every day at the same times to keep working well. If a woman stops taking it, her HIV will grow strong enough to make her ill again. Afterwards, if she restarts taking ART, her HIV may be more difficult to treat with the same medicine.

There are several possible medicine combinations to use. More detailed information on using ART starts on page 492 of this book.

Note: Where ART is still not easily available, it may be difficult for every woman who needs it to take ART for her own health. But even where this is true, women and midwives can probably get medicines to prevent HIV from spreading to babies during birth. See page 495.

Hepatitis B

A person whose liver is diseased has hepatitis. Hepatitis B is a dangerous infection of the liver caused by a virus. Hepatitis B is spread when the blood or other body fluids from an infected person get into the body of a person who is not infected. Body fluids include spit, wetness from the vagina, and semen. Hepatitis B spreads very easily from one person to another, especially during sex. It can also spread from a pregnant woman to her baby.

Signs of hepatitis (including hepatitis B)

- no appetite
- tired and weak feeling
- yellow eyes and sometimes yellow skin (especially the palms of the hands and soles of the feet)
- pain in the belly or nausea
- brown, cola-colored urine, and stools that look whitish
- or no signs at all

Treatment

There is no medicine that will help. In fact, taking medicine can hurt the liver even more. But most people recover from hepatitis B.

People with hepatitis B may feel better sooner if they rest, eat foods that are easy to digest, and do not drink any alcohol.

Hepatitis B and pregnancy

If a woman has signs of hepatitis B while she is pregnant, seek medical advice. The baby will need vaccinations after birth to prevent infection with Hepatitis B.

Teaching women how to prevent STIs

Women should know that any sex partner may have an STI. A man has a much greater chance of having an STI if he has sex with other partners without using condoms.

Testing is the only sure way to know if a person has an STI. Find out if there is affordable STI testing in your area, and see page 379 to learn about testing women yourself.

The surest way for a woman to avoid getting an STI is for her to avoid having sex with anyone who might be infected. Or she can use condoms (for men or women) when she does have sex. Condoms protect very well against most STIs, although there is always some chance of getting an STI even with a condom.

Midwives can help protect women from HIV and hepatitis B by sterilizing any syringes or other tools used during birth or invasive procedures. See page 59.

Midwives can teach a woman these ways to protect herself:

- Use a condom every time she has sex.
- Do not have sex with someone who has signs of an STI (although many STIs spread even when the person has no signs).
- Do not douche or use herbs or powders to dry the vagina. When the vagina is dry or irritated by douches, sex can cause tiny cuts in the skin, making the woman more likely to be infected by HIV or other STIs.

If a man will not use a condom, these methods may give a woman a little protection from getting an STI:

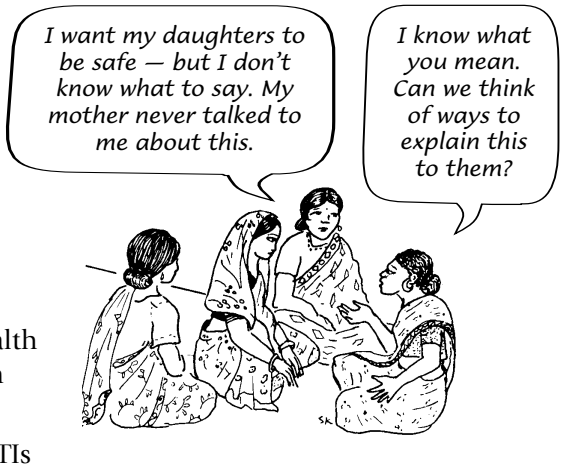
- Use a diaphragm.
- Wash the outside of the genitals after sex.
- Urinate right after sex.

A woman and her partner can also have oral sex or other sexual touch instead of intercourse (see page 312).

How to help stop STIs in your community

Here are some ideas to help prevent the spread of STIs in your community:

- Talk to the women you care for about STIs. Some women may feel embarrassed to talk about them, but knowing more may save their lives.
- During prenatal checkups, ask women about unusual discharge or sores on the genitals, or offer to examine them for signs of STIs.
- Organize a group to talk about health topics, including STIs and HIV.
- Support education about sex in your local school. Help parents understand that teaching about STIs, including HIV, helps young people make safer choices later on when they start having sex.


I want my daughters to be safe — but I don't know what to say. My mother never talked to me about this.
I know what you mean. Can we think of ways to explain this to them?

- Talk to men and help them understand the risks of STIs, including the risks to pregnant women and their babies.
- Find out from your local medical center, hospital, or Ministry of Health what STIs are the most common in your community.
- Find out what medicines to treat STIs work best in your area — and find out what they cost. Learn how to treat STIs, or help women find treatment.
- Start a community pharmacy so that it will be easier for people to get medicines and condoms.

CHAPTER 19
Advanced skills for pregnancy and birth

In this chapter:

Vaginal exams during labor 339

How to do a vaginal exam 340

Home methods for starting labor 341

Enemas (rectal fluids) 342
Castor oil drink 343
Plant medicines 344

Injections 345

How to give fluid through a vein (intravenous solution, or IV) 350

Catheters (a tube to help urine come out) 352

Episiotomy 354

Sewing a tear or an episiotomy 356

How to judge if a tear needs to be stitched 356
How to sew tears 362

Caring for a woman after female genital cutting (circumcision) 367

To open a genital scar 367
To repair the cut 367
Emergency care for FGC 368

Turning a breech or sideways baby 369

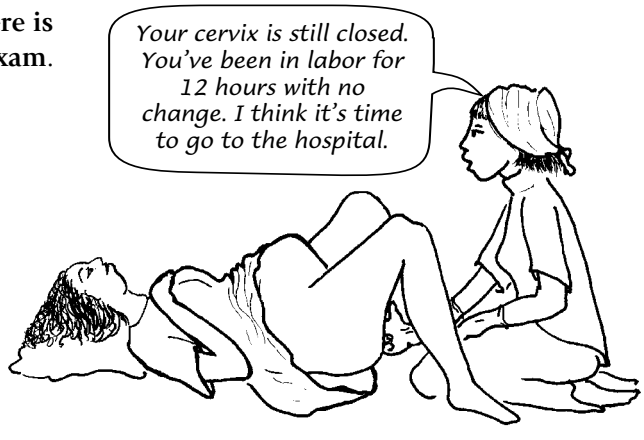
Advanced skills for pregnancy and birth

CHAPTER 19

Vaginal exams during labor

Most women's labors progress normally, and **usually, there is no need to do a vaginal exam**. But a vaginal exam can be useful because it is the most sure way to know if labor is progressing normally. An exam can show you how open a woman's cervix is and whether the baby is breech or head first.

Vaginal exams have risks, so only do one when it is truly necessary. See page 186.



A vaginal exam can help you decide when to get medical help.

WARNING! Any time you do a vaginal exam, even when you have washed your hands and are wearing gloves, you risk passing harmful germs to the woman in labor. For this reason it is best to **avoid vaginal exams if all is going well**.

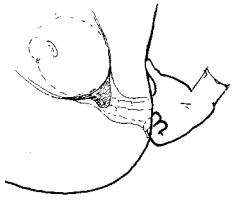
- Never do a vaginal exam after the waters break unless it is late in labor or there is an emergency. The risk of infection is great (see page 175).
- Never do a vaginal exam if the mother is bleeding from the vagina (see page 183).

How to do a vaginal exam

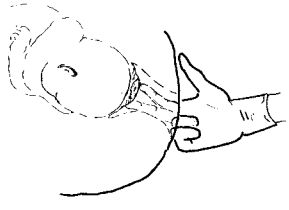
It is difficult to describe how to do a vaginal exam in a book. Vaginal exams are best learned by practice. Be sure to have an experienced person teach you before you try doing one yourself.

1. Explain to the woman what you are going to do and why.
2. Have the woman rest on her back with her legs bent and open.
3. Wash your hands well with soap (see page 53). Put on sterile or very clean gloves.
4. Gently put 2 fingers into the mother's vagina. If she is in early labor, you will usually have to reach inside almost as far as your fingers will go to find the cervix. If the woman is in late labor, the cervix may be pushed closer to the outside by the baby's head.
5. Feel the cervix.

If the cervix is closed, it feels long and firm, like your nose.



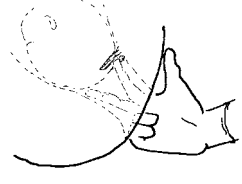
As the cervix begins to open, it gets more flat.



The opening cervix feels like open lips stretched over the baby's round, hard head.

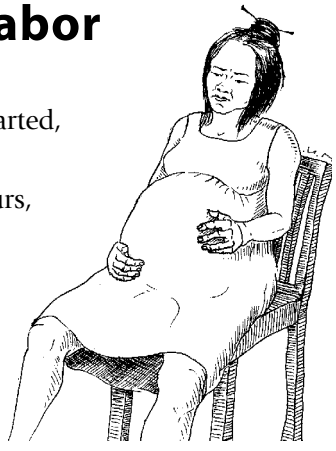
The baby's head will feel hard behind the cervix. If you feel something soft behind the cervix, the baby may be breech (bottom first).

Sometimes, near the end of labor, the cervix is almost open enough but there is a little bit of cervix left on one side. It is best to wait until the cervix is gone for the mother to start pushing.



When you cannot feel the cervix at all, it is completely open. It is now safe for the mother to start pushing.

Home methods for starting labor



You may need to encourage labor when:

- the bag of waters has broken, and labor has not started, or it has started but the birth is not near.
- the mother has been in active labor for several hours, but the birth is not near.
- the mother has been in light labor for many hours and the labor is active enough to keep her from resting, but it is not strong enough to open the cervix.

Do not try to encourage labor if there are warning signs, especially if the baby is in an impossible birth position, if there is unusual bleeding, or if the baby's heartbeat is slower than 100 beats a minute. **Get medical help.**

Page 191 lists some very safe home methods to start or strengthen labor. Those methods have little risk, so try them first. If those methods do not work, and you cannot get medical help, try the methods listed on the following 3 pages to strengthen labor.

Risks of these methods

The methods here can all be used at home, but they do have risks. The greatest risk is that they may not work. **Trying to encourage labor can waste precious time** — time that could have been used traveling to a medical center to get help. If these methods do not work after an hour or 2, get medical help — even if it is very far away.

There can also be risks from the method itself. For example, some plant medicines strengthen labor but can also cause high blood pressure.

WARNING! **Never use drugs (like oxytocin or misoprostol) to start labor at home.** These drugs can cause contractions strong enough to kill the baby or the mother.

Enemas (rectal fluids)

Enemas are used to:

- speed labor (enemas can make contractions stronger).
- wash stool out of the intestines (this may make labor less painful).
- hydrate a person who does not have enough fluids in her body.
- give medicines to a person who cannot swallow.

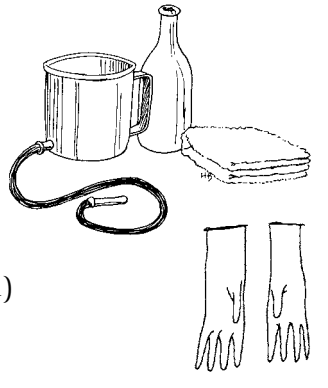
WARNING! The greatest danger of enemas is that a little stool will wash out of the rectum and get into the vagina. This can cause an infection after birth. To avoid causing infection, **keep everything that touches the mother's anus, or any stool, away from her vagina**.

Also, be prepared for labor to become strong very quickly.

How to give an enema

1. Gather the tools you will need:

- a pair of clean plastic gloves
- a clean enema bag, or a container to hold water
- a clean plastic tube to put into the rectum
- a clean hose to attach the enema bag to the tube (60 centimeters, or 2 feet, is a good length)
- 500 milliliters (about a ½ liter bottle or 2 cups) of clean warm water.

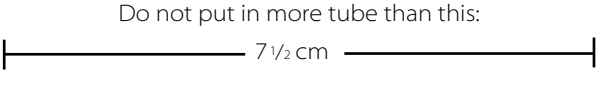


2. Wash your hands and put on clean plastic gloves.

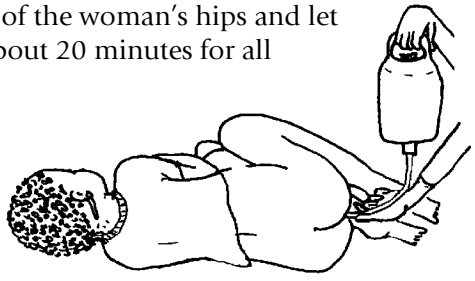
3. Ask the woman to lie on her left side.

4. Let water flow down into the end of the tube and then pinch the tube closed. This lets the air out.

5. Wet the end of the tube with water or lubricant and then slide it into the rectum. Do not slide it more than 7½ centimeters (3 inches).



6. Hold the bag of water about the level of the woman's hips and let the water flow in slowly. It will take about 20 minutes for all of the water to flow in.
7. Remove the tube and ask the woman to hold the water inside as long as she can. When she passes stool or lets the water out, contractions will usually get stronger and closer together. The longer she holds the water in, the better it will work.



Note: If you are giving her rectal fluids to prevent dehydration (not to strengthen labor), it is especially important for her to hold the fluid. If the woman is in shock, you can give her a second bag of fluid 1 hour after the first.

Castor oil drink

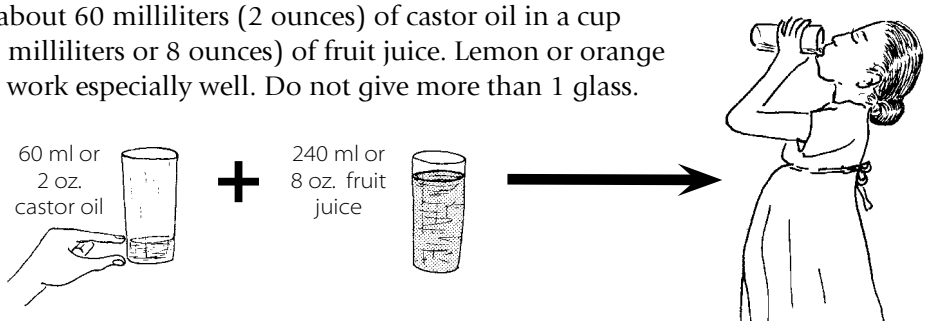
A drink of castor oil and fruit juice can sometimes start or strengthen labor. If castor oil is going to start a labor, it should work within 4 hours.

Castor oil causes stomach cramps and diarrhea (watery stool). Sometimes it also causes vomiting. Having diarrhea during labor increases the chance of infection because a little stool can easily get into the vagina. The contractions together with stomach cramps can make labor feel too fast or overwhelming for the woman.

Always warn women that castor oil tastes very bad and will make them feel very uncomfortable. Remind them to wipe from front to back after passing stool.

To use castor oil

Mix about 60 milliliters (2 ounces) of castor oil in a cup (240 milliliters or 8 ounces) of fruit juice. Lemon or orange juice work especially well. Do not give more than 1 glass.



The mother should drink the whole glass down.

Plant medicines

Many traditional midwives and healers use plant medicines to start or strengthen labor. There may be plants in your area that work well. Some plant medicines do not work very well but are not harmful. Others can be dangerous.

Watch the effects of plant medicines carefully. Ask other healers about the useful and harmful effects of plant medicines in your community. Do not use a plant medicine that may be dangerous.

All plant medicines have these problems:

- It is difficult to control the dose. The same plant grown in different areas or in different soil, or picked in different seasons, will have different strengths.
- Any medicine given by mouth during labor may be difficult for the body to use. The stomach does not work well during labor.

Each plant may have its own risks. Some common risks among plants that strengthen labor are:

- high blood pressure
- contractions that are too strong
- allergic reactions

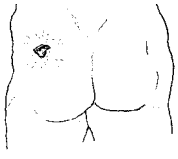
Injections

It is more dangerous to inject a medicine than to take it by mouth. But sometimes, especially in emergencies, injections are the most effective way to give a medicine. **Give injections only when absolutely necessary**, and learn to do so safely.

Injections are given much too often. In many places, when someone feels sick, the first thing they do is get an injection — sometimes of vitamins, sometimes of antibiotics or some other drug. These types of injections rarely do anything to heal the sickness. They are often an unnecessary expense, and can be dangerous.

WARNING! **Injections can be dangerous:**

- The place an injection is given can become infected and can cause an abscess.
- Some injected medicines can cause strong allergic reactions.
- Injections with unsterile needles can spread disease — like hepatitis or HIV.



Sterilize your needle before you use it — or it can cause an abscess.

- A midwife (or anyone who gives an injection) has a small risk of accidentally sticking the needle in herself after giving an injection. If this happens, she is at risk of catching diseases like hepatitis or HIV.
- Injections to speed up labor can harm the baby and mother. Never use an injection to speed up labor.

Here are some times when an injection is helpful or necessary:

- severe bleeding after birth. Injecting oxytocin can stop bleeding.
- convulsions or pre-eclampsia during labor and birth. Giving magnesium sulfate can prevent a convulsion.
- infections of the mother after birth. Injecting antibiotic medicines can quickly stop the infection.
- sewing tears after birth. Injecting pain medicine makes sewing hurt less.

Remember: Never give an injection if medicine by mouth will work just as well.

Allergy

Remember that some medicines can cause serious allergic reactions. See page 465 to learn more about allergic reactions and how to treat them.

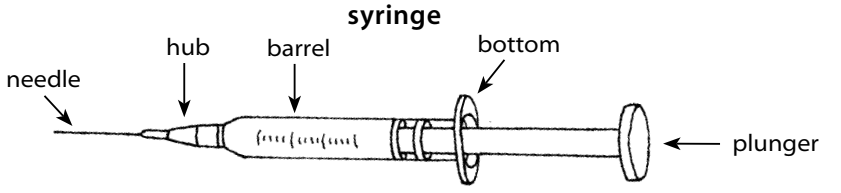
How to give an injection

In this book, we use this picture with any medicine that should be injected.

Prepare the syringe and needle

There are 2 kinds of syringes: reusable and disposable. The reusable ones must be taken apart, cleaned, and sterilized before each use (see page 66). The disposable kind come in sterile packages. If the sterile package is dry and unbroken, the syringe and needle can be used directly out of the package. They do not need to be sterilized first.

Sometimes you can use a disposable syringe and needle several times, but **you must sterilize them before each use**.

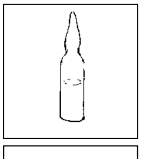


There are also disposable syringes that cannot be reused. Sometimes these syringes come with a dose of medicine already inside. These may be called autodisabled syringes.

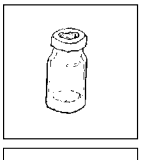
WARNING! **After a syringe and needle have been sterilized, never touch the needle with your fingers or let anything else touch the needle.** If you do, it will not be sterile anymore. Only touch the outside of the barrel or the plunger of the syringe.

Draw up the medicine

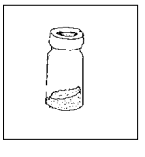
Injectable medicines come in 3 forms:



In a small bottle called an **ampule**. You must break off the top of an ampule to get the medicine.



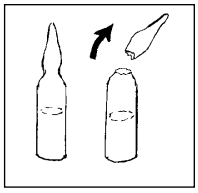
As a **liquid in a small bottle with a lid**. You push the needle through a soft spot in the lid to get the medicine.



As a **powder in a bottle with a lid**. You must add sterile water to these medicines.

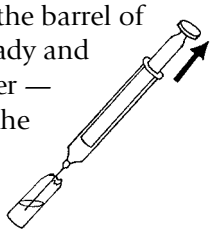
An ampule usually contains the right amount of medicine for 1 dose. Bottles usually contain enough for several doses. The barrel of the syringe has markings to show how much medicine you have drawn up.

If the medicine comes in an ampule:

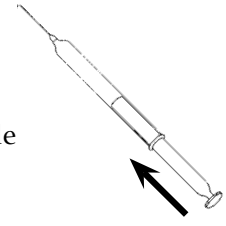


1. Wipe the ampule clean with a cloth or some alcohol. Then wrap a clean cloth around the top and break it off.

2. Put the needle into the ampule. Be careful that the needle does not touch the outside of the ampule. Hold the barrel of the syringe steady and pull the plunger — this will draw the medicine into the syringe.



3. Hold the syringe with the needle pointing up. Gently tap the barrel of the syringe until all the air bubbles rise to the top. Then push the plunger in just a little to get the air out.

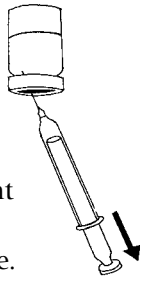


If the medicine comes as a liquid in a bottle:

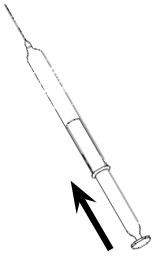
1. Clean the rubber top of the bottle with a sterile gauze or cloth that has been soaked in alcohol. This keeps dirt off the needle and out of the medicine.

2. Pull the plunger back to fill the syringe with air. Then push the syringe through the top of the bottle, and inject the air into the bottle.

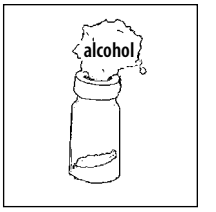
3. Turn the bottle upside down. Be sure the tip of the needle points into the medicine inside the bottle and not into the air. Hold the barrel of the syringe still and slowly pull the plunger until the correct amount of medicine enters the syringe. Pull the syringe out of the bottle.



4. Hold the syringe with the needle pointing up. Gently tap the barrel of the syringe until all the air bubbles rise to the top. Push the plunger in just a little to get the air out.



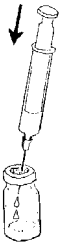
If the medicine comes as a powder in a bottle:



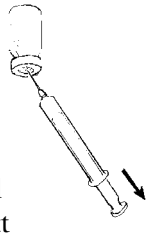
1. Clean the rubber top of the bottle with a sterile gauze or cloth that has been soaked in alcohol.

2. Draw up the correct amount of sterile water to dilute the medicine. You can sterilize water by boiling it for 20 minutes — then let it cool before you use it.

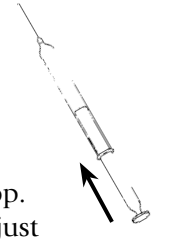
3. Inject the sterile water into the bottle with the powdered medicine inside. With the needle still inside, gently shake the bottle to mix the powder and water completely.



4. Turn the bottle upside down. Be sure the tip of the needle is in the medicine — not the air. Hold the barrel of the syringe still and slowly pull the plunger until the correct amount of medicine enters the syringe. Pull the syringe out of the bottle.



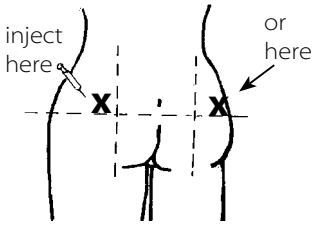
5. Hold the syringe with the needle pointing up. Gently tap the barrel of the syringe until all the air bubbles rise to the top. Push the plunger in just a little to get the air out.



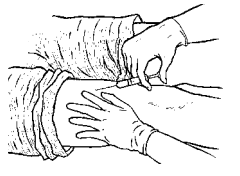
Inject safely

Inject an adult in the buttock or thigh.

Imagine that each buttock is divided into 4 parts. Inject into the upper outer part.

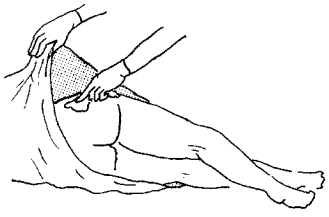


Or inject into the long muscle on the front of the thigh.

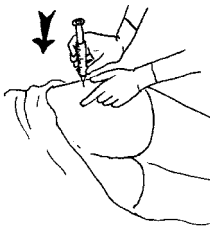


Inject a baby only in the large muscle on the front of the thigh — never in the buttock or anywhere else. Pinch the muscle loosely between your thumb and finger so you don't hit the bone.

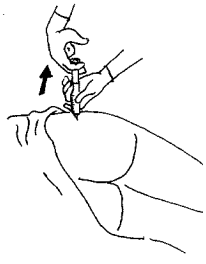
1. Clean the skin with soap and water or with alcohol. Let it dry.



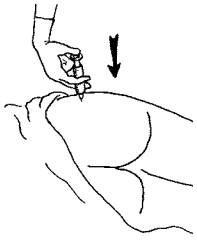
2. Put the needle all the way in. Move quickly and smoothly as you insert the needle and it will not hurt much. Do not move the needle once it is in.



3. Pull the plunger of the syringe out just a little. If any blood comes into the syringe, you have gone into a vein. Take the needle out and try again.



4. If no blood enters the syringe, slowly but steadily push the plunger in to inject the medicine into the muscle.



5. Pull out the syringe.

6. Immediately put the used syringe somewhere where it cannot stick anyone.

If you are using a disposable syringe, you should have a box or can close by where you can safely get rid of the needle (see page 68).

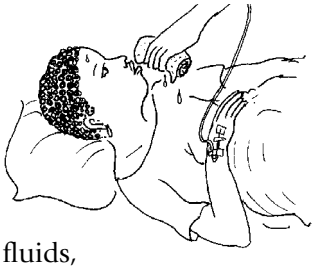
If you will use the syringe again, you should drop it in a bucket of bleach, or bleach mixed with water, and then sterilize it (see page 66).

Note: Before you inject a person, practice injecting plain water into a fruit or soft vegetable to get experience using a syringe.

WARNING! **Used needles are dangerous.** They may carry serious diseases like hepatitis or HIV.

- Do not try to put a cap back onto a dirty needle — you might stick a needle into your own skin and pass harmful germs from the needle into your blood.
- Never throw a needle in the trash or leave it where other people might stick themselves.
- If you reuse a needle, always sterilize it first.

How to give fluid through a vein (intravenous solution, or IV)



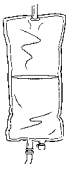
If a woman loses a lot of blood during childbirth, or after a complicated miscarriage or abortion, she needs fluids fast in order to save her life. Take her to a medical center as soon as possible. On the way, you can start an intravenous (IV) drip to give her fluids through her veins. If she is awake and can drink fluids, let her do so, but you can also give her an IV.

Note: Learning to give an IV takes practice. It is not something that can be learned just from a book. Watch someone experienced, and then have someone experienced watch you as you give IVs the first few times.

How to give an IV

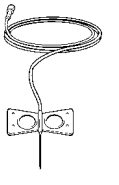
1. Wash your hands well with soap and clean water. Put on clean gloves.
2. Gather all the supplies you will need:

a bag or bottle of sterile IV fluids
You may use normal saline, lactated ringers, or Hartmann's solution.



sterile plastic tubing
(Some IV solution bags come with a tube already attached.)

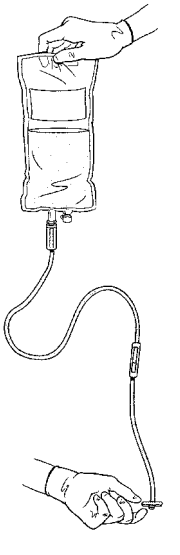
a sterile IV (butterfly) needle



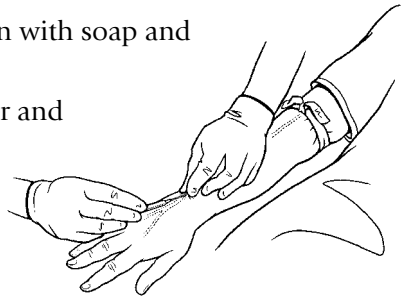
tape
to hold the IV in place

soap and clean water, or alcohol, to clean the skin

3. Open the sterile package of tubing. Attach the tubing to the bottle or bag, but do not touch the part of the tube that attaches to the bag — it must stay sterile.
4. Hang up the bag of solution. It should be high enough so that the solution can run down through the tube. You can hang it from a hook on the wall, or, in an emergency, someone can hold the bag.
5. Let the fluid run down through the tube to get rid of any air in the tube. Tie the tube off at the end so that it does not drip and waste the solution. Some tubes come with a clip to close the tube.



6. Tie a piece of cloth or a rubber tourniquet around the woman's upper arm. This will make the veins in her lower arm fill up with blood and be easier to find.
7. Look at her lower arm to find the largest vein you can see.
8. If you cannot find a large enough vein in her lower arm, re-tie the cloth or tourniquet in the middle of her lower arm and look for a vein in the back of her hand, or just above her thumb at the wrist.
9. When you have picked a vein, clean the skin with soap and clean water or with alcohol.



10. Hold the vein steady between the first finger and thumb of one hand. Hold the needle in the other hand and carefully insert it into the vein. Do not try to go very deep or very far inside the vein. When the needle is inside the vein, a little blood should appear in the hub of the needle.

    Lay the needle almost against the skin and slide it into the vein.
11. Take the tourniquet off the woman's arm.
12. Untie the tube of fluid and attach it to the needle.
13. Quickly start the flow of the fluid. There should be a flow control on the IV tube. Let the fluid run in as fast as possible until you have replaced about 2 times the amount of blood that the woman lost. If you think she lost 5 cups of blood, she should get 10 cups of IV fluid. After you have replaced the fluid, continue to give the woman 150 cc every hour until she does not need the fluid anymore.

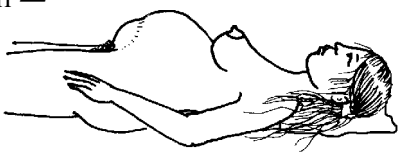
14. To keep the needle in place, use tape to hold the tube on the woman's arm.

WARNING! **Do not delay getting medical help.** Inserting an IV can take a long time, especially when you are first learning. Trying to insert an IV before transporting someone to medical help can waste time — this is dangerous. When a woman is bleeding heavily, it is more important to get medical help fast than to insert an IV.

To remove an IV, take off the tape, press a sterile or clean cloth against the place where the needle inserts into the skin, and then quickly remove the needle. Keep pressure on the spot for a few minutes to prevent bleeding.

Catheters (a tube to help urine come out)

If a woman does not urinate — or urinate enough — for several hours, her bladder may become too full. A full bladder can stop the womb from contracting well. This can slow or stop a labor. After a birth, a full bladder can cause a woman to bleed heavily.

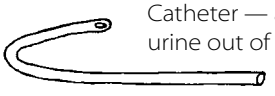


When the bladder is overfull, it may bulge from the lower belly. Do not let the bladder get this full!

There are many ways to help a woman urinate:

- Let her listen to the sound of running water.
- Ask her to squat.
- Ask her to sit in clean warm water and urinate into it.
- Have her pour clean warm water over her genitals.

If the woman has tried each method but none of them has worked, you may need to use a catheter to let the urine out.



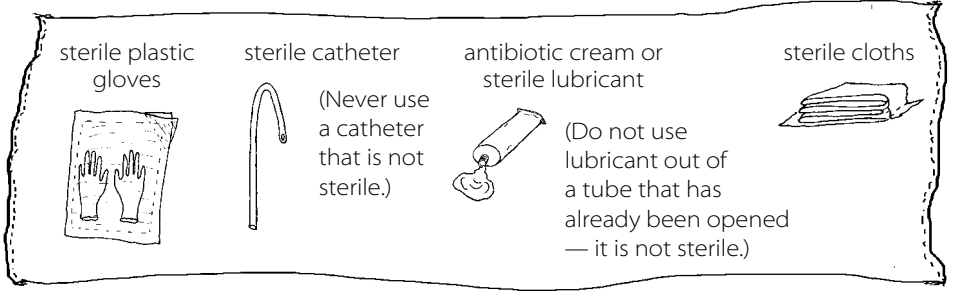
Catheter — a tube that lets urine out of the bladder.

To use a catheter, you slide a sterile tube through a woman's urethra (the hole the urine comes out of) into her bladder.

WARNING! **Use a catheter only when it is truly necessary, when you have been trained to do so safely, and when you have a sterile catheter.** Putting anything in the bladder puts the woman at risk of infection. It can also be very uncomfortable or painful.

How to insert a catheter

1. Prepare your tools:

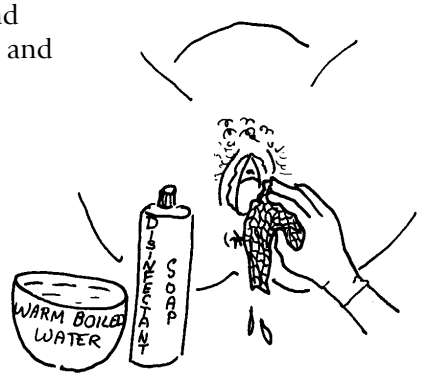

sterile plastic gloves
sterile catheter
(Never use a catheter that is not sterile.)
antibiotic cream or sterile lubricant
(Do not use lubricant out of a tube that has already been opened — it is not sterile.)
sterile cloths

You will also need a bowl or bucket and a good source of light.

If the catheter is in a sterile package, open the package, but do not touch the catheter. Open a package of sterile lubricant, but **do not touch the lubricant or the catheter**.

Squeeze some lubricant out onto the end of the catheter.

2. Wash the mother's belly, thighs, and genitals well with disinfectant soap and boiled water that has been cooled.



3. Put sterile or very clean cloths under the mother.

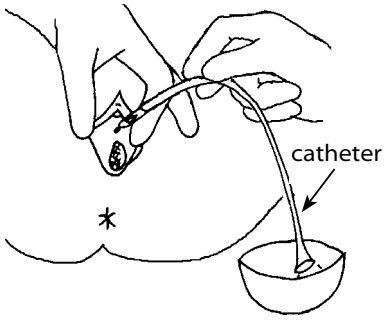
4. Wash your hands well for at least 3 minutes (see page 53). Put on sterile gloves. Keep one hand sterile — it should only touch the catheter, nothing else.

5. Have a helper shine the light on the woman's genitals so you can clearly see what you are doing.

6. Hold the inner lips of the woman's vulva apart with one gloved hand, so that you can see her urethra (it may be hard to see).

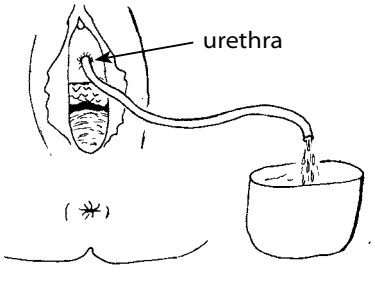
7. With the other hand, slowly and gently put the catheter into the woman's urethra.

   Usually the catheter goes straight in. But if the baby's head is in the vagina, you may need to point the catheter up at first, so it can get over and past the head. If the catheter stops moving in, roll it gently between your fingers, but do not force it. Forcing it might injure the mother.



8. When the tip of the catheter gets to the mother's bladder, urine will start to drip or flow out the other end. You should have a bowl or bucket ready to catch it.

9. Take the catheter out when the urine stops.



Ask the mother to drink plenty of liquids during the next few days so that she urinates often. This will help clean any germs out of her bladder. Tell the mother to watch for signs of infection (see page 128) for the next few weeks.

Episiotomy

An episiotomy means cutting the opening of the vagina to make it larger for the baby to come through. Episiotomies are rarely needed and are done much too often.

Only do an episiotomy if the baby is already in the vagina and must be born quickly because of a medical emergency. An episiotomy may be necessary when:

- the baby is breech.
- the baby is about to be born, and there is a gush of blood from the vagina (which may mean the placenta has come off the womb wall). This baby must be born very quickly or she could die.
- the cord has prolapsed (see page 176).
- the mother has had female genital cutting, and heavy scars may prevent the vagina from stretching open for the baby. If you know how, you can cut the scar (see page 367). If you do not know how to cut this scar, you may need to do an episiotomy.

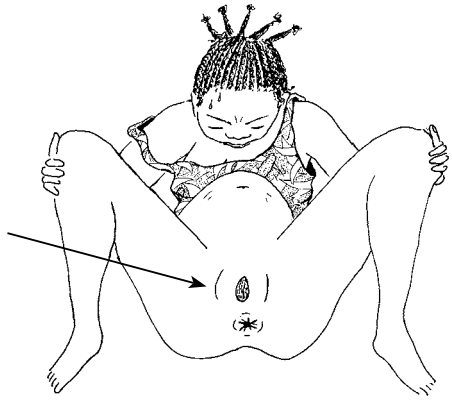
WARNING! **Cutting an episiotomy has many risks:**

- The cut can become infected.
- The cut can go through a blood vessel and cause heavy bleeding.
- The cut can be very painful for the mother after the birth. This can make it harder for her to care for her baby.
- Even a small cut can continue to tear. In the worst case, it can tear through the rectum (anus).
- You can accidentally cut the baby.

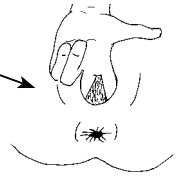
Episiotomies do not heal more easily than tears. Only do an episiotomy to save the life or health of a baby or mother.

How to do an episiotomy

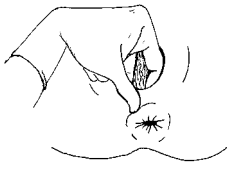
1. Wash your hands well (see page 53) and put on sterile gloves.
2. Wait until the vagina is bulging open and you can see the baby's head pushing out.



3. Put your fingers into the vagina like this. Your fingers will hold the skin of the vagina away from the baby.



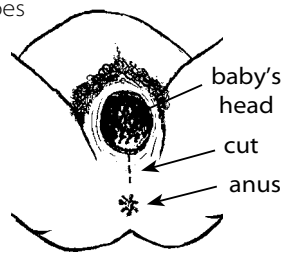
4. Feel with your thumb to find the rectal sphincter (the round muscle around the anus). **Never cut through the rectal sphincter.**



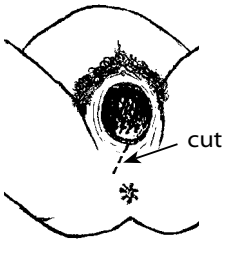
5. Use a pair of sterile scissors to make a cut in the skin about 2.5 centimeters (1 inch) long. It is best to use scissors that are rounded on the end so you will not poke the mother or cut the baby.

There are 2 common ways to cut an episiotomy. Use the cut that you have been trained to make.

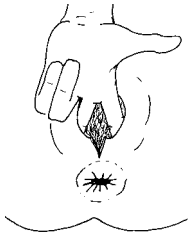
A median cut goes straight down from the vagina. This type of cut may heal more easily and with less pain.



A mediolateral cut starts at the bottom center of the vagina and points toward the right or left. These cuts are less likely to tear into the anus.



6. Feel the cut with your fingers. Cut it larger only if you have to. It is better to make one cut than several small cuts. Remember, do not cut into the muscle around the anus.



7. Press on the cut with a sterile cloth to slow the bleeding.

8. After the birth, sew the cut tissue together. See the next few pages on sewing tears and episiotomies.

Sewing a tear or an episiotomy

Most tears can be prevented if the mother is in good general health. During pregnancy she should eat well, get plenty of rest, and do squeezing exercises regularly (see page 44). It may also help to slow the birth of the baby's head during labor (see page 207). But sometimes tears do happen.

Small tears will usually heal on their own. Ask the woman to rest for a couple of weeks after the birth. She should keep her legs together as much as possible, although she should move them regularly. Others should do her household work for her and help her with the new baby.

Other tears and cuts heal better if they are sewn together. It is not hard to sew them, but it is important to learn how from a skilled teacher.

How to judge if a tear needs to be stitched

Tears are hard to see clearly. A woman's vagina is usually swollen after the birth, and blood clots can get in the way. Sometimes there is more than one tear. Take your time, and use a strong light. Someone may have to hold a flashlight for you.

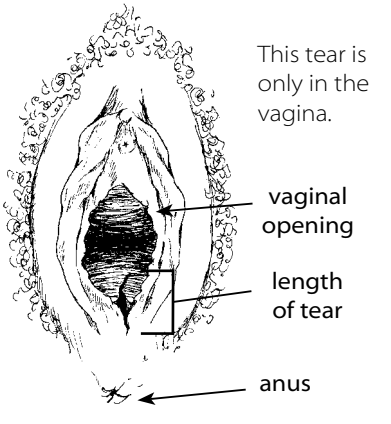
1. Wash your hands well (see page 53) and then put on sterile gloves.

2. Judge **how long** the tear is and **how much of the tissue is torn.**

Look at the tear from the outside. Gently put 1 or 2 fingers into the tear to feel how deep it is. Carefully stretch the vagina to see how long the tear is.

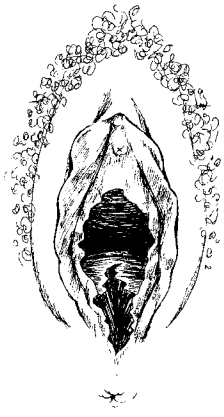
3. Decide with the mother if you need to sew the tear or not. Small tears that stop bleeding quickly do not need to be sewn. Deeper tears, or tears that will not stop bleeding, do.

1st degree tear



1st degree tears do not need to be sewn.

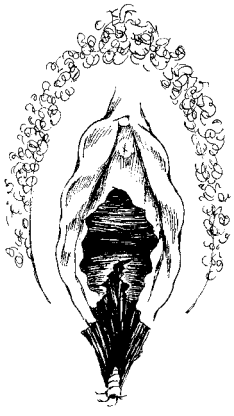
2nd degree tear



This tear goes into the vagina, in the perineum (the outside skin between the vagina and the anus), and in the muscle under the skin.

2nd degree tears will heal better and are less likely to become infected if they are sewn, but they can heal on their own.

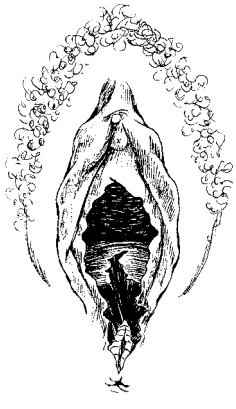
3rd degree tear



This tear goes into the vagina, the perineum, the muscle, and the rectal sphincter (the muscle around the anus).

3rd and 4th degree tears must be sewn. If possible, they should be sewn by someone very experienced.

4th degree tear



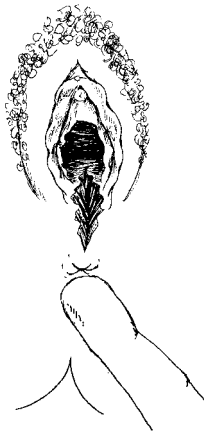
This tear goes into the vagina, the perineum, the muscle, the rectal sphincter, and into the rectum.

4th degree tears are very difficult to repair. **If a mother has a 4th degree tear through her rectum, get medical help right away.**

To test if the muscle around the anus is torn

Lightly brush the anus with a gloved finger.

If the anus tightens, the muscle is probably OK. If the anus does not tighten, the muscle may be torn.



After you do this test, throw your glove away or sterilize it, and wash your hands well.

Sew tears as soon as you can after the birth so they will heal well. It is best for a tear to be sewn within 12 hours.

If you cannot sew within 12 hours, and the woman has a 1st or 2nd degree tear, do not sew it. Clean the cut well and tell the woman to rest as much as she can for 2 weeks. If she has a 3rd or 4th degree tear, it must be sewn or she can have permanent damage to her body. She may not be able to control her need to pass stool. If possible, take the mother to a medical center.

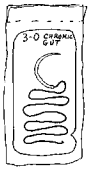
WARNING! **You may not have the skills to sew every tear yourself.** If a tear seems very complicated or deep, if you do not have sterile tools to sew with, or if you do not have experience with this kind of tear, get medical help.

Tools for sewing tears

To safely sew a tear, you must have:
sterile gloves
sterile scissors
chromic gut or absorbable synthetic suture (like *Vicryl*)
a strong light
boiled water and disinfectant or soap
sterile cloth for putting under the mother while you sew
sterile gauze for cleaning the tear while you work
SOAP
DISINFECTANT

Chromic gut or *Vicryl* sutures are best because they dissolve and do not have to be removed. You must use this kind of suture for stitches under the skin.

If there is no chromic gut or *Vicryl* suture available, you can use plain cotton thread that has been boiled. But since you will need to take the stitches out later, make only 1 layer of stitches on the skin.

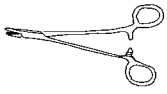


Use size 000 sutures for inside the vagina, and size 00 for sewing muscle. If you have only 1 of these sizes, you can use it for all the sutures.

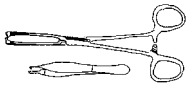
It is easiest to sew with a curved needle. Some sutures come with the needle already attached.

If possible, you should also have:

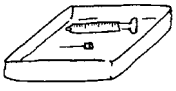
needle holder to grip the needle



forceps or toothed tweezers to hold muscle while you sew



sterile needle and syringe for giving anesthetic

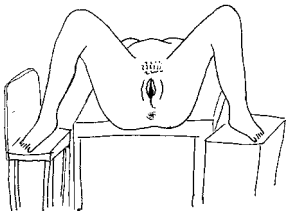


local anesthetic (medicine to make the area around the tear numb)

Note: See page 59 to learn how to sterilize your tools.

Getting ready to sew a tear

Ask the mother to lie on her back with her legs bent and open.

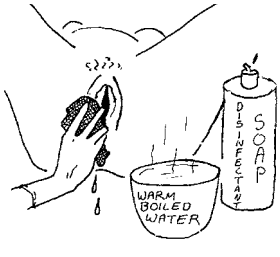


Wash your hands (see page 53). Put on sterile gloves.

Set your sterile tools on a sterile cloth.

Put a sterile cloth under the mother's bottom.

Gently wash the tear with warm boiled water and disinfectant or mild soap.



Ask a helper to shine a light on the tear.

Numb the torn area

If you sew a tear immediately after birth, the woman's genitals may still be numb, and you may not have to use an anesthetic. But if possible, you should numb the cut before you sew it.

Before you give the anesthetic, ask the mother if she has ever had this medicine. Do not give the medicine if she has ever had any reaction to an anesthetic (like itching, rashes, or trouble breathing).

To numb the genitals before sewing

- inject up to 10 ml of 1% lidocaine without epinephrine in the torn tissue

or

- inject up to 20 ml of 0.5% lidocaine without epinephrine in the torn tissue

or

- spray topical lidocaine onto the skin and into the torn tissue

Lidocaine is a common local anesthetic. It is sometimes called lignocain. There may be other local anesthetics in your area. Be sure these do not contain epinephrine.

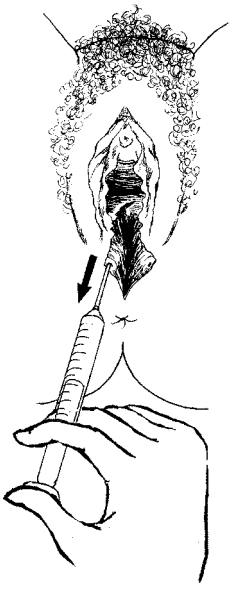
Before you inject an anesthetic, look carefully at the shape of the tear. Think about what pieces of tissue must be sewn together. This is important because the tear will swell and change shape after you inject the medicine.

1. Slide the needle under the skin, just inside one side of the tear.
2. Pull the plunger back just a little. If any blood comes into the syringe, pull it out and try inserting it again.
3. Slowly inject medicine and at the same time, slowly pull the needle out.

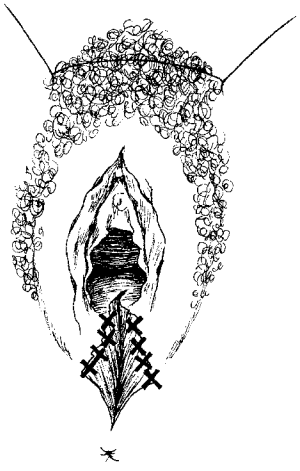
   This will inject a line of medicine under the skin instead of injecting it all in one place. The tissue will swell a little.

   Inject medicine on the other side in the same way.

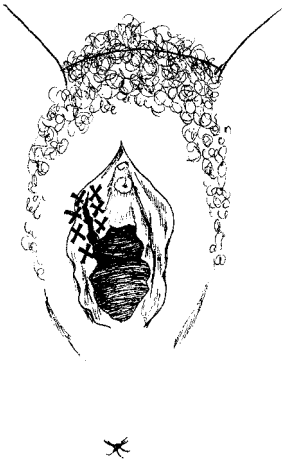
   Inject about 4 ml into each side of the tear. Do not inject more than 10 ml all together.



Another way to inject the medicine is to put several small doses along the sides of the tear. Inject a dose just under the skin at each **x** spot.



If the tear is in the lips of the genitals, you can inject little doses of medicine around it.



If there is still some medicine left in the syringe, set it down on your sterile cloth. You may need to use a little more medicine later.

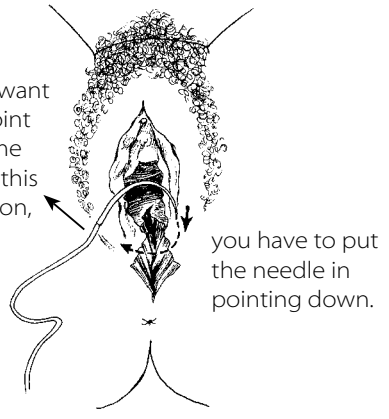
General rules for sewing tears

- Do not sew until after the placenta has come out, and you are sure the mother and baby are healthy.
- Wear gloves and use sterile tools.
- Sew tears inside the vagina before tears of the skin.
- Think about what parts should be sewn to each other, and where to put each stitch, before you put the stitch in.
- Use as few stitches as you can — just enough to hold the tear together.
- Do not sew blood clots or hairs into the tear. This can cause infection.
- To be sure the womb is small and hard, have a helper check it from time to time as you sew. Do not forget to watch the mother's overall health.
- Know your limits. If a tear looks too deep or complicated, get medical help.

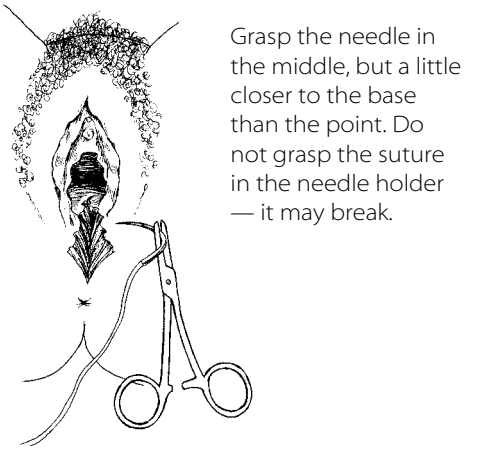
Sewing well takes practice. To learn how, try tearing a piece of meat and sewing it closed.

How to sew tears

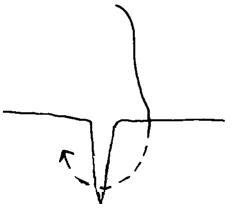
Use a curved needle this way:



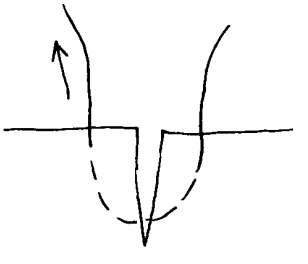
If possible, use a needle holder.


Grasp the needle in the middle, but a little closer to the base than the point. Do not grasp the suture in the needle holder — it may break.

There are a few different types of stitches you can use. Do the stitch you are trained to do and feel the most comfortable using. A simple and strong stitch is called the interrupted stitch. An interrupted stitch is simply a single stitch that is knotted with a 4-layer knot, then both sides of the suture are cut.



Put the needle in one side of the cut or tear, about ½ centimeter from the edge of the tear.

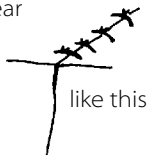


Bring the needle up on the other side of the tear, ½ centimeter from the edge.

Make a 4-layer knot (see page 364).

Match the sides of the tear carefully. Try to put the skin back where it was before the birth. This can be difficult with a complicated tear and swollen tissue.

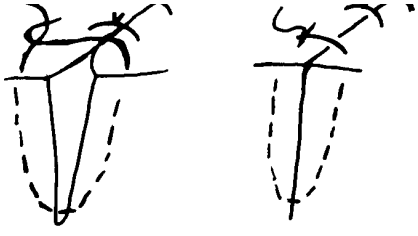
The torn edges of the tear should line up closely.



like this

not like this

The suture should come through just above the bottom of the tear. If the stitch is too shallow, the space under the stitch can fill with blood or pus and get infected. If the stitch is too deep, it can pierce the rectum. This can cause serious infection.

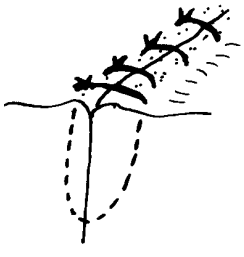


This stitch is done right.

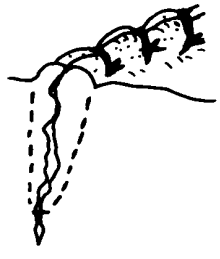
This stitch is **too shallow**. Blood and pus will collect here.

This stitch is **too deep**. It goes into the rectum where the stool is.

Make each stitch tight enough to bring the sides of the tear together snugly. Do not make them too tight — that can cause pain or infection.

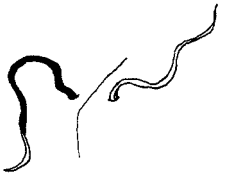


The edges should line up closely.



They should **not** bunch the skin.

Tie your stitches securely



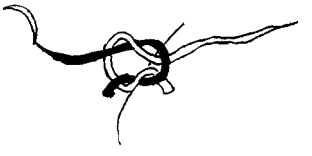
(In these drawings we show one side of the suture in black and one in white so the parts of the knot will be easier to see. Real suture can be any color, but will all be the same color.)

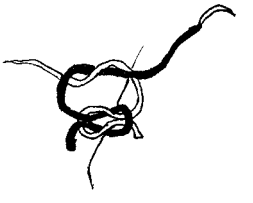
Tie 4-layer knots so they will be secure. Do not use more than 4 layers or the knot will be too bulky. To tie your stitches with 4-layer knots:

1. Lay the needle end of the suture over the other end and then wrap it under and pull it through to tighten.

2. For the second layer, lay the needle end back over the other end, wrap it under, and pull it through.

3. Do this 2 more times, each time laying the needle end over the other end, wrapping it under and pulling it through.

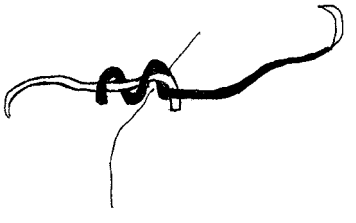




4. Cut the ends about ½ centimeter long.

This will make a strong knot that will not come untied.

Some people use an extra wrap on the first layer like this:



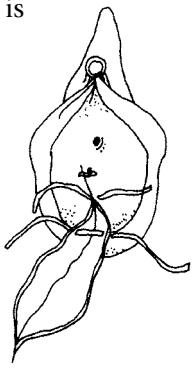
Wrap the needle end over, under, then over and under again.

This can help the first layer stay tight while you tie the next layer.

A step-by-step way to sew a tear or episiotomy

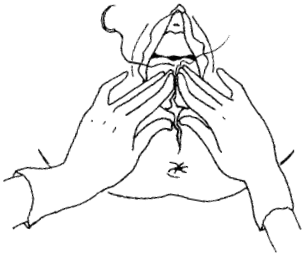
1. If you have it, put sterile gauze in the vagina above the tear. It helps to stop blood from leaking and getting in your way. **Remove the gauze when you are finished sewing.**

2. The inside of the vagina is made of a kind of tissue called vaginal mucosa. Under the mucosa is muscle which is more red and tough. It is important to sew mucosa to mucosa, and muscle to muscle.

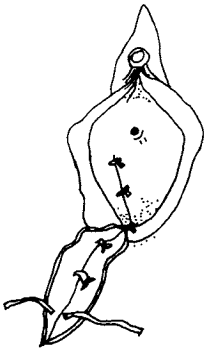


3. Using chromic gut or *Vicryl* suture, put the first stitch above the inside tip of the tear in the vagina and tie a 4-layer square knot. Clip the stitch with sterile scissors.

4. Continue to make interrupted stitches as shown, through the length of the vagina.



From time to time, push all the pieces of the tear together to make sure things are going together nicely.



5. If the tear goes into the muscle, use interrupted stitches to sew the inner muscle layer together.

Use as few stitches as possible, just enough to hold it together. Usually 2 or 3 will do. With each interrupted stitch, tie a 4-layer knot and clip the ends with sterile scissors.

6. Now close the skin of the perineum over the muscle, using the same type of interrupted stitches and 4-layer knots.

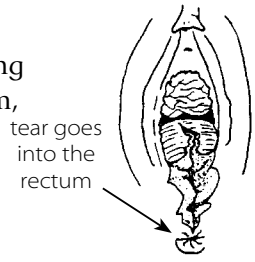
Clip the ends with sterile scissors. Be sure the stitches that close the muscle are covered by the skin.

7. Before you finish, gently put a finger into the mother's rectum to be sure that no stitches went all the way through. If you feel a stitch in the rectum, you must take her stitches out and do them over again! Be careful not to get any stool on her wound.

8. Throw away (or sterilize) your gloves and wash your hands well.

Sewing the rectal sphincter

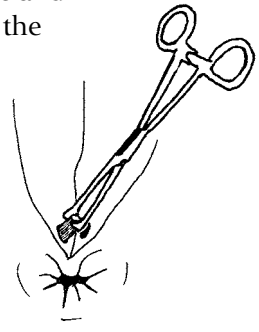
If a woman's rectal sphincter tears, she is at risk of never being able to hold her stool in again. This is a very serious problem, and it is very important that her sphincter is sewn well. If possible, take the woman to a medical center or have someone very experienced sew this kind of tear.



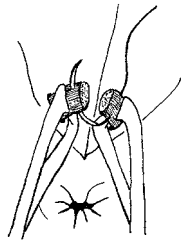
WARNING! Before you sew a torn rectal sphincter, check to see if the wall of the rectum itself has torn. **Do not try to repair the wall of the rectum yourself. Get medical help right away.**

1. The sphincter muscle is inside a thin casing of tissue called fascia. The muscle and fascia may withdraw a little into the woman's body.

Using a sterile forceps, clamp, or tweezers, pull one end of the muscle and fascia a little so you can see them. Use a second pair of forceps to pull the other end of the muscle so it sticks out a little too.



2. Use size 00 chromic gut or *Vicryl* suture for sewing the sphincter muscle. Pull the 2 sides of the sphincter close together. Insert the needle through the fascia and muscle on one side and pull it out through the other side.



3. Use 3 or 4 interrupted stitches to hold the muscle and fascia together.

4. After the muscle is together, sew the rest of the tear.

Caring for a woman after female genital cutting (circumcision)

In some communities — mostly in Africa but also in some parts of Asia and the Middle East — girls and young women are cut on their genitals. Like many cultural practices, it is a way that girls' bodies are changed so they are considered beautiful, acceptable, or clean. It is also seen as a passage to womanhood.

Sometimes just a small cut is made. Sometimes the clitoris and the inner lips of the vagina are removed. Sometimes the girl's genitals are sewn partially closed. This kind of cutting has many names including circumcision, female genital mutilation, or the name we use, female genital cutting (FGC).

While this tradition may be meaningful for the community, FGC has serious harmful effects on the health and well-being of the girls who are cut. In the long term, FGC can lead to urinary tract infections, emotional damage, loss of sexual sensation or ability to have sex as an adult, and long, unproductive labors which can lead to death of the baby or the mother.

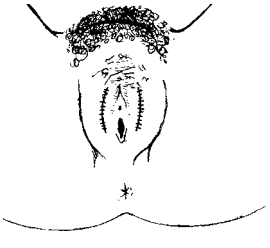
If a woman has had FGC and her genitals have been sewn partially closed, her genitals need to be cut open before she gives birth.

To open a genital scar

1. Wash your hands well and put on sterile plastic gloves.
2. Put 2 fingers into the vagina and under the scar tissue.
3. Inject a local anesthetic if you have it (see page 360).
4. Use a sterile pair of scissors to cut the scar open. Open the scar enough so you can see the urethra, but no farther. These cuts can bleed heavily, so be careful not to cut far.

To repair the cut

1. Wash your hands well and put on sterile plastic gloves.
2. Inject a local anesthetic on both sides of the scar (see page 360).
3. Loosely sew together raw surfaces with 000 chromic gut or *Vicryl* suture to stop any bleeding.



circumcision repaired

Emergency care for FGC

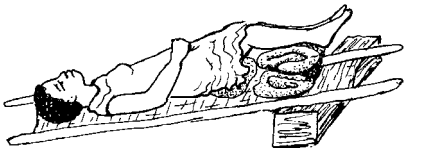
A girl whose genitals were recently cut can have serious problems including bleeding and infection, both of which can lead to shock — which is an emergency. Girls whose bleeding cannot be stopped need medical help right away. Midwives can help these girls by stopping the bleeding, treating for shock, and watching for signs of infection.

Bleeding and shock

WARNING SIGNS of shock (one or more of the following):

- severe thirst
- pale, cold, and damp skin
- weak and fast pulse (more than 100 beats a minute)
- fast breathing (more than 20 breaths a minute)
- confusion or loss of consciousness (fainting)

What to do for bleeding or shock



- Get medical help immediately.
- Press firmly on the bleeding spot right away. Use a clean, small cloth that will not soak up a lot of blood. Keep the girl lying down with her hips elevated while you take her to get medical help.
- Help her drink as much as she can.
- If she is unconscious and you are far from help, you may need to give her rectal fluids (see page 342) or IV fluids (see page 350) before transporting her.

Infection

If a cutting tool is not sterilized before and after each use, germs on it can cause a wound infection, tetanus, HIV, or hepatitis.

WARNING SIGNS

- **wound infection:** fever, swelling in the genitals, pus or a bad smell from the wound, and pain that gets worse
- **tetanus:** tight jaw, stiff neck and body muscles, difficulty swallowing, and convulsions
- **shock:** (see the list above)
- **infection in the blood (sepsis):** fever and other signs of infection, confusion, and shock

WARNING! **If a girl begins to show signs of tetanus, shock, or sepsis, get medical help right away.**

What to do for infection

- Keep watching for warning signs of tetanus and shock. If she has not yet had a tetanus vaccination, she should get one immediately (see page 411).
- Give modern or plant medicines for pain.
- Keep the genitals very clean. Wash them with water that has been boiled and cooled and has a little salt in it.
- Give an antibiotic, such as amoxicillin or erythromycin.

For infection from female genital cutting

- give 500 mg erythromycin ..... by mouth, 4 times a day for 10 days

Turning a breech or sideways baby

A baby is much safer if he is born head first instead of breech (bottom first). A baby lying sideways cannot be born vaginally. If you have been trained to do so safely, there may be times when you could turn a baby so that his head is down.

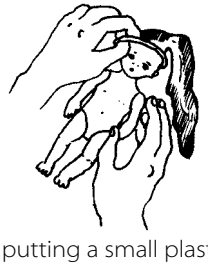
WARNING! **Turning a baby has many serious risks.** The biggest dangers are pulling the placenta off of the wall of the womb or tearing the womb. These can kill the baby and the mother.

Turning a baby can also start labor.

Only turn a baby if:

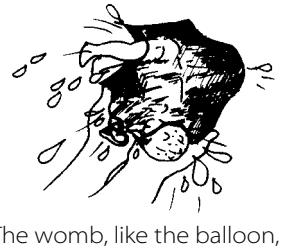
- you have been trained to do so by someone with experience.
- you can get medical help if you need it.
- you are sure the baby is breech or sideways.

To see the danger of turning the baby:



Try putting a small plastic doll inside a small balloon or plastic bag and filling it with water.

Then try to turn the doll.



The womb, like the balloon, can tear easily if not handled with extreme care.

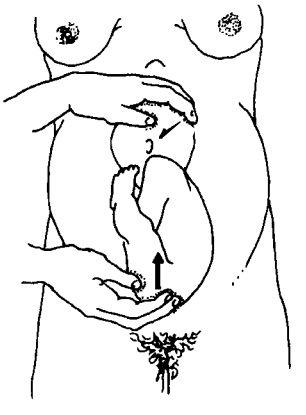
Turning a baby

The best time to turn a baby is 2 to 3 weeks before his due date. If you turn a baby earlier, he may move back to a breech or sideways position. Also, if labor starts, it will probably be safe for the baby to be born at that time.

If possible, you should have a helper when you turn a baby. This person can listen to the baby's heartbeat the whole time.

WARNING! **If the heartbeat speeds up, or slows down and does not go back to normal, stop turning the baby.** If the heartbeat stays fast or slow, turn the baby back to the position he started in. If the heartbeat still does not go back to normal, give the mother oxygen if you have it, and have her lie on her left side. If the baby's heartbeat still does not go back to normal, take her to a medical center immediately.

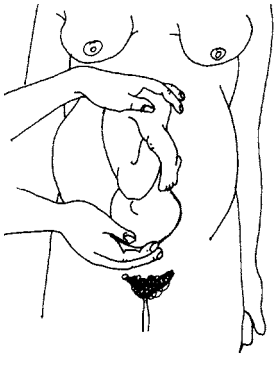
1. Ask the mother to urinate and then lie down on her back with her knees bent. It is important for her to relax her body as much as she can. It may help for her to take slow, deep breaths.
2. Listen to the baby's heartbeat (see page 139).
3. If the heartbeat is normal, feel the baby's position again to be sure he is breech.
4. Grasp the baby's head with one hand. Put your other hand under the baby's bottom, and push up, towards the top of the womb, to move the baby out of the pelvis.



5. Gently but firmly move the baby in the direction he is facing. If he does not move easily, try moving him in the other direction. Try to keep the baby's chin tucked into his chest.

6. Each time the baby moves — even a little — stop and listen to his heartbeat. **If the heartbeat is not normal, stop.**

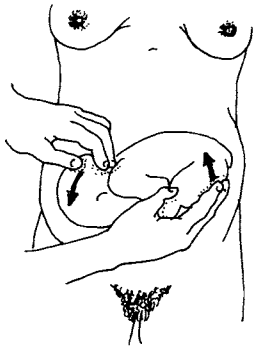
7. Keep turning the baby until his head is down.



WARNING! **Never force a baby to turn.** If the baby feels stuck, or the mother is in pain, stop.

Turning a sideways baby

Turning a sideways baby is the same as turning a breech baby. Turn the baby in the direction he is facing. If he cannot turn in that direction, you may need to turn him the other way so that he is in a breech position. Breech is not as safe as head-down for birth, but he will be able to be born vaginally this way.



If a sideways baby does not turn easily, you must stop and the baby must be born in a medical center by cesarean surgery.

CHAPTER 20
The pelvic exam:
how to examine a woman's vagina and womb

In this chapter:

When to do a pelvic exam 374

Making the pelvic exam safe 374

Before the exam 375

Help the woman relax 375

Ask the woman about her history . . . 375

The visual exam 376

The speculum exam 377

Tests for infections and cancer 379

Pap test for infections and cancer . . . 381

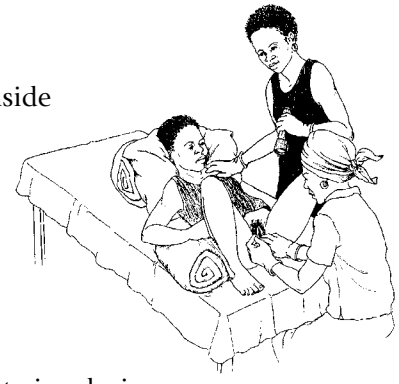
Vinegar test for HPV 380

Cancer of the cervix. 383

The bimanual exam (2-hand exam) 385

The pelvic exam:
how to examine a woman's vagina and womb

CHAPTER 20



A pelvic exam is a way to learn what is happening inside a woman's vagina and womb.

Doing a pelvic exam can help you learn:

- if a woman is pregnant, and how many weeks she has been pregnant.
- if she has an infection in her womb or vagina.
- if she might have cancer of the cervix or womb.

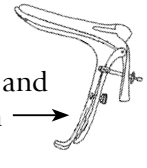
You also must do a pelvic exam to insert an intrauterine device (see Chapter 21) or to do manual vacuum aspiration (see Chapter 23).

This exam is not difficult to learn, and with practice, most people can do it.

A different exam can tell you if a woman's cervix is opening during labor. This chapter does not explain how to do that exam. See page 339 to learn how.

Note: In some places, pelvic exams are done only by doctors — not midwives. But do not be afraid to try. With training and practice, midwives can learn this and other new skills. A midwife who learns to do pelvic exams can help women stay healthy throughout their whole lives, not just when they are pregnant or giving birth.

There are 3 parts of the pelvic exam



1. The **visual exam** is a way to look for any signs of infection on the outside of the woman's genitals (page 376).
2. The **speculum exam** is a way to see inside the woman's vagina and to test the health of her cervix. You use a tool called a speculum → to do the speculum exam (page 377).
3. The **bimanual exam** (2-hand exam) is a way to check the health of a woman's womb and ovaries or to check the size of the womb in pregnancy. To do a bimanual exam, you feel the womb with the fingers of one hand inside a woman's vagina and the other hand on her belly at the same time (page 384).

You do not always need to do all 3 parts of this exam.

When to do a pelvic exam

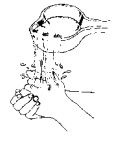
It is safe and useful to do a pelvic exam when:

- the woman wants to know about the health of her cervix, womb, and ovaries. You should certainly do this exam if the woman has signs of infection or cancer. But women can have infections or cancer in the cervix or womb and have no signs. So if possible, women should have this exam every few years — even if they have no signs of problems.
- the woman is pregnant and you need to know how long she has been pregnant.
- the woman wants an IUD (see Chapter 21).
- the woman is having problems after a miscarriage or abortion (see Chapter 22), and needs an MVA (see Chapter 23).

WARNING! **It is not safe to do a pelvic exam when:**

- the woman is in labor. It is not necessary to do a visual exam, a speculum exam, or a bimanual exam when a woman is in labor. If you must check her cervix to see if it is opening, see page 339.
- the woman has broken waters. If the woman is pregnant and her waters are broken, this exam can spread an infection into her womb.
- the woman is in late pregnancy and is bleeding from the vagina. If the woman is bleeding from the vagina in late pregnancy, she may have placenta previa (see page 112). Do not do a pelvic exam — or you could make the bleeding worse.
- the woman gave birth in the last few weeks.

Making the pelvic exam safe



The pelvic exam is usually safe, but it can have risks. When you do a pelvic exam, you must be sure not to put any germs into the woman's vagina. When you do a pelvic exam:

- always wash your hands well, before and after the exam (see page 53).
- always wear very clean or sterile plastic gloves (see page 54).
- always use clean tools.

If you cannot wash your hands or wear gloves, it is not safe to do the exam.

There may be other ways to get information about a woman's health if you cannot make a pelvic exam safe, or you do not know how to do a pelvic exam, or the woman does not want a pelvic exam.

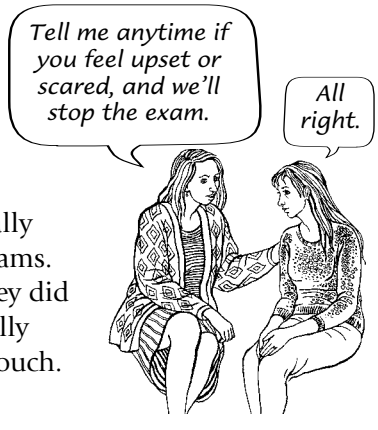
For example, to find out if a woman has an infection in her womb, start by asking her if she has any signs of infection (see page 325) and by taking her temperature. You can also try pressing on her belly, just above her pubic bone. If she has a womb infection, this will be very painful. These are safe ways to find infection because you do not have to put your fingers into a woman's vagina to do them.

Before the exam

Help the woman relax

The pelvic exam is easier and more comfortable when the woman is relaxed and not afraid.

Explain what you are doing and why you are doing it. Remind the woman to take deep breaths and to let her body relax. Go slowly, and stop if you are hurting her. If the woman is healthy, the exam should not hurt. Pain can be a sign of infection or a sign that you need to be more gentle.



Fear

Some women are afraid to have pelvic exams, such as women who have never had pelvic exams, and women who have had exams that were painful.

Women who have been abused sexually or physically may have an especially difficult time having pelvic exams. These women have been touched when and where they did not want to be touched. With all women, and especially with women who have been abused, ask before you touch.

Shame

When you do a pelvic exam, you are examining a woman's genitals and vagina. Many women are embarrassed or ashamed about these parts of their bodies. They may not want to talk about them, look at them, or let other people look at them.

These body parts are an important part of being a woman. When you do a pelvic exam, encourage the woman to ask questions, and explain that these parts of her body are healthy and normal. You may not be able to take away a woman's feelings of shame, but you can help reduce them.

Ask the woman about her history

Before you do a pelvic exam, ask the woman when she had her last monthly bleeding, if she is pregnant, and if she has any signs of infection in her vagina or womb. Chapter 7 suggests other questions you can ask a woman about her health history.

Also, explain to the woman what you are going to do during the pelvic exam and answer any of her questions about it.

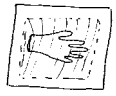
The pelvic exam

Before you start:

- Make sure that you have privacy.
- Prepare all the tools you will need for the exam:

clean or sterile speculum

clean or sterile plastic gloves



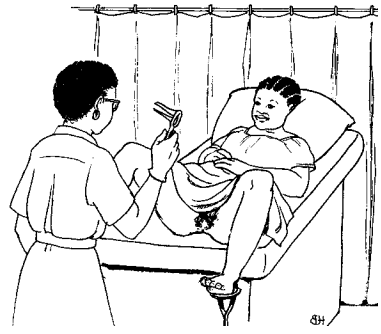
light

mirror

clean cloths for wiping after the exam

The speculum and gloves should be sterile if you are doing a pelvic exam to insert an IUD or to do an MVA. Otherwise, a very clean speculum is OK.

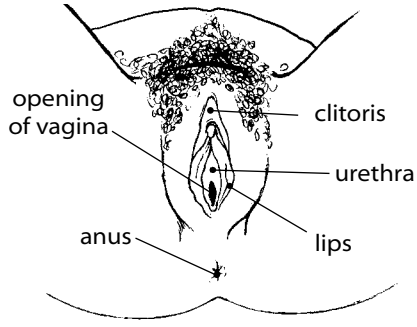
- Ask the woman to urinate before the exam. This will make the exam more comfortable for her.
- Ask the woman to remove her pants or pull up her skirt. If she wants something to cover her legs, give her a sheet or cloth.
- Ask her to lie on her back with her knees up and her buttocks at the end of the table or bed.



- Wash your hands with clean water and soap. Your fingernails should be short and clean.
- Put clean plastic gloves on your hands.

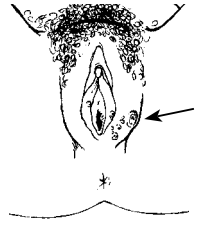
The visual exam

The skin on the genitals should be smooth and healthy. The genitals should be clean, but some clear or white discharge from the opening of the vagina is normal.



healthy genitals

Look for lumps, swelling, unusual discharge, sores, or scars on her genitals. Sometimes you can feel lumps with your fingers that you cannot see. Lumps or sores could be signs of infection or injury. (See Chapter 18 to learn more about infections of the genitals.)



Sores on the genitals can be a sign of infection.

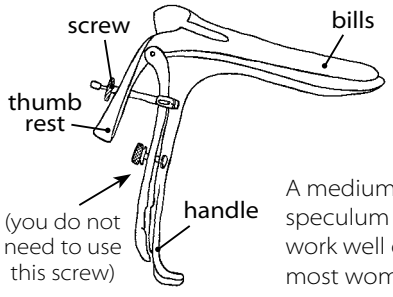
The speculum exam

A speculum is a tool for looking inside a woman's vagina. The speculum holds the walls of the vagina open. When it is in the right position, you will be able to see the cervix, test for infection or cancer, insert an IUD, or empty the womb.

Practice opening and closing a speculum a few times before you use one for an exam so that you are comfortable with how it works.

Some midwives let a woman look at a speculum before they give her an exam. This can help the woman understand the exam.

speculum



A medium-sized speculum will work well on most women.

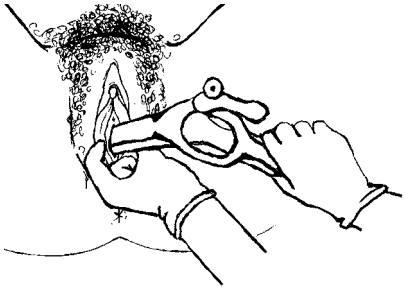
A smaller speculum may work best for young women, women who have never had sexual intercourse, older women who are in menopause or who are not having regular sexual intercourse, or women who have had FGC (see page 367). A larger speculum may work best for women who have had many children.

1. Help the woman relax by touching her leg, asking her to breathe, and by being gentle and slow. Remind her to tell you if the speculum hurts and stop the exam if you hurt her.

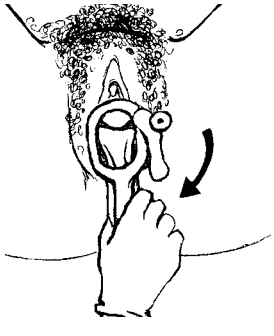
2. Warm the speculum with clean warm water, or by holding it in your gloved hand.

3. Ask the woman if she is ready to start. When she is ready, gently open the lips of her genitals with one hand so that you can see the opening of her vagina. Make sure to explain everything you are doing as you do it.

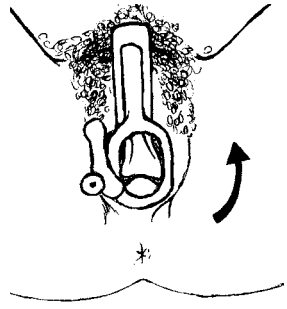
4. Hold the speculum with your other hand. Turn the handle to one side, and slide the closed bills into the vagina. If you are gentle, the bills will slide downwards into the vagina and should not hurt the woman.



As you put the speculum in, turn it so the handle is down. Be very careful not to pull her skin or hairs. Gently push the speculum all the way in. The handle should rest against the skin between the vagina and the anus.



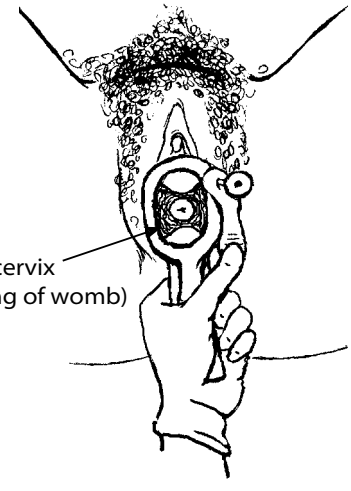
Note: If the woman is on a bed or a flat table and the speculum handle will not fit facing down, you can insert it with the handle pointing up.



5. Open the bills of the speculum by gently pushing the thumb-rest with your thumb. When you see the cervix between the bills, tighten the screw on the thumb-rest to keep the speculum open.

   If you open the speculum but you do not see the cervix, close the speculum and remove it partway. Then try again, repeating step 4. The cervix may be off to one side a little. This is normal. Sometimes the cervix will come into view more clearly if the woman coughs or pushes down as if she is passing stool while the speculum is open inside her.

The cervix is usually about this big.



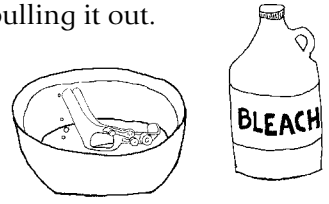
6. Look at the cervix — it should be smooth and pink, or, if the woman is pregnant, a little blue.

   Small, smooth bumps on the cervix are usually normal, but sores or warts are signs of infection.

   Notice if there is discharge or blood coming out of the cervix. Thin, white, or clear discharge is usually normal and healthy. Green, yellow, gray, lumpy, or foul-smelling discharge can be a sign of infection.

7. If the woman wants to look at her own cervix, you can hold a mirror and a light to help her see. This is a chance for a woman to learn more about her body.
8. Test the cervix for signs of cancer by using either the vinegar or Pap test (see page 379).

9. To remove the speculum, pull it toward you a little until the bills are away from the cervix. Loosen the screw on the thumb-rest and gently let the bills close while pulling the speculum down and out of the vagina. The bills should be closed all the way as you finish pulling it out.
10. Give the woman a clean cloth or tissue to wipe any discharge from her genitals.
11. Be sure to clean the speculum after you use it.



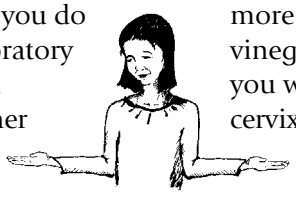
Tests for infections and cancer

An important reason to do a speculum exam is to test the health of the cervix. The cervix can be tested for infections (see Chapter 18) and for cancer. Your local health authority may be able to provide you with kits to test for chlamydia, gonorrhea, or other STIs and can recommend how often to test women for infections and cancer. Women who have had normal exams may be tested every 3 years or when you see them during pregnancy. Women whose exams were not normal should be tested more often. Women with signs of illness should be tested right away.

There are 2 tests for cancer of the cervix. You do not need to do both tests. Choose the test that you can use most easily in your area.

The vinegar test

The vinegar test is easy to do, it is not expensive, and you do not need to have a laboratory to know the results. If a woman has cancer on her cervix, the vinegar test is very likely to find it.



But the vinegar test cannot tell how severe a cancer is, and sometimes it shows a problem that is not cancer.

or

The Pap test

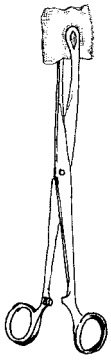
The Pap test can give you much more information than the vinegar test. The Pap test can tell you whether a problem on the cervix is an infection or cancer. It may tell you what type of infection a woman has, or how severe a cancer is.

But the Pap test is expensive, and you need a laboratory to know the results.

If either test is positive, the woman needs medical attention as soon as possible.

You can do these tests for a woman at almost any time, including when she has her monthly bleeding or during pregnancy. During a woman's monthly bleeding is not the best time to do the Pap test, because the blood can make the test less clear. But it is better to do the test during a woman's monthly bleeding than not to do the test at all. If the woman is having her monthly bleeding, use a long swab to gently wipe the blood away from her cervix before you do the test.

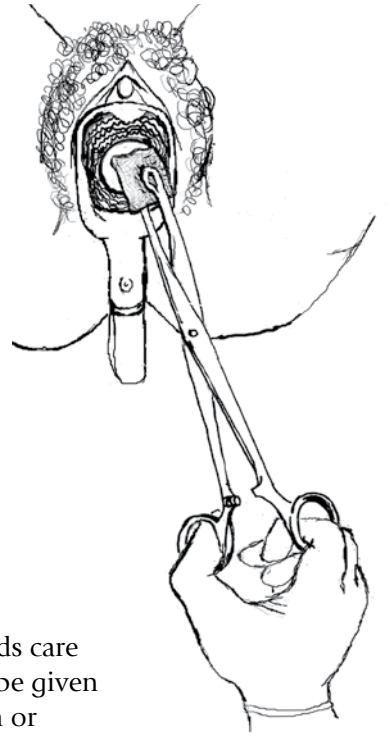
Vinegar test for HPV



Many people are infected with a sexually transmitted virus called human papilloma virus (HPV). Women get HPV when they have sex with someone who has it. Some types of HPV cause genital warts. Other types of HPV can cause cancer in the cervix. Most women with HPV have no warts and no other visible signs of the virus. See page 333 for more about HPV. If a woman has one of the dangerous types of HPV for a long time, it may cause cancer of the cervix which can lead to death. Testing for HPV and removing cancer cells from the cervix can save women's lives.

The vinegar test is a very simple way to check if the woman has HPV on her cervix. A positive vinegar test shows sores on the cervix that are usually not visible. These sores could be caused by HPV, cancer, or other sexually transmitted infections.

1. Insert a speculum and look at the cervix.
2. Hold a sterilized piece of gauze or cloth with a sterilized pair of forceps or long tweezers. You can also use a long swab if you have one.
3. Dip the gauze into plain white vinegar (any vinegar can work, as long as it has 4% to 5% acetic acid) and wet the cervix with the vinegar. Remove the gauze. The vinegar should not hurt the cervix but it may sting a little.
4. Wait for 1 minute. If the woman is infected with HPV, white patches will usually appear on the cervix.

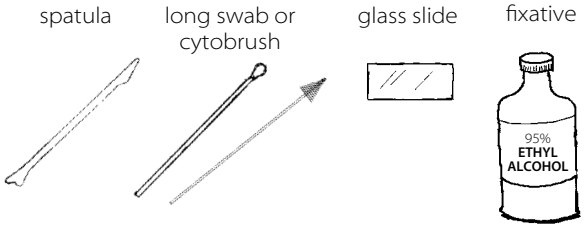


If the woman has white patches, she needs care right away from a medical center. She may be given more tests, or she may have the sores frozen or removed so they do not grow into cancer.

Pap test for infections and cancer

For a Pap test, you will scrape a tiny bit of tissue from the cervix and vagina, and put it on a thin piece of glass called a slide. To do a Pap test, you must have access to a laboratory. At the laboratory, trained people must look at the tissue under a microscope to know if it is healthy or not.

Before the test, gather these supplies:

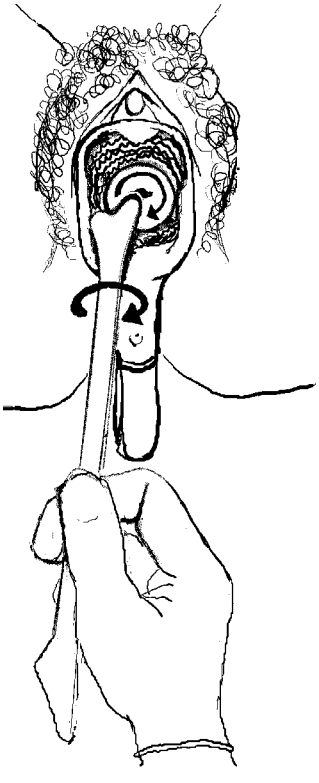


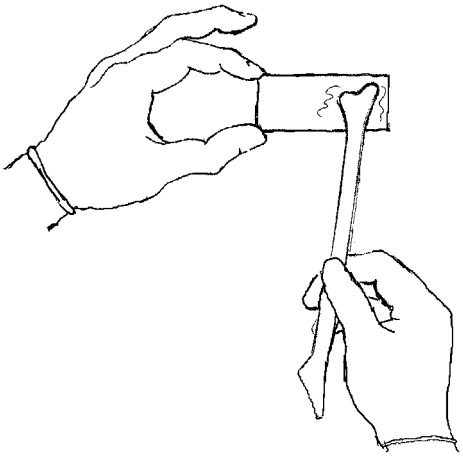
1. Insert a speculum.

2. Place the end of the spatula that has 2 points onto the cervix and roll it in a full circle between your thumb and forefinger.

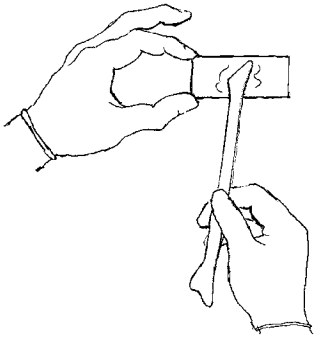
As you roll the spatula, gently scrape a very thin layer of tissue off the cervix. This should not hurt the woman, but sometimes it is uncomfortable for her. It is normal for the cervix to bleed a little.

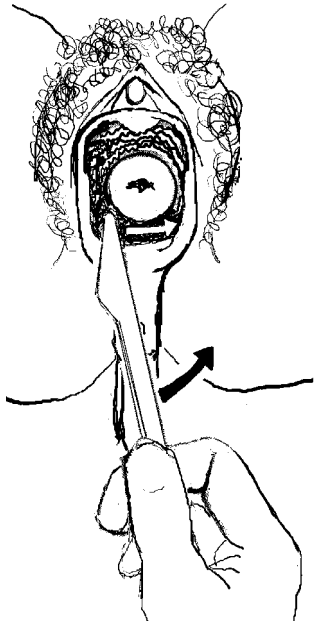
3. Wipe the spatula onto one end of the slide.



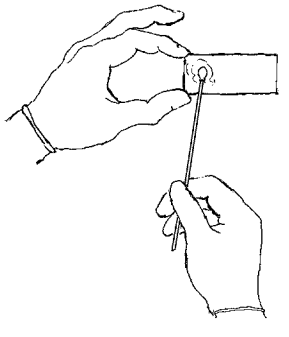


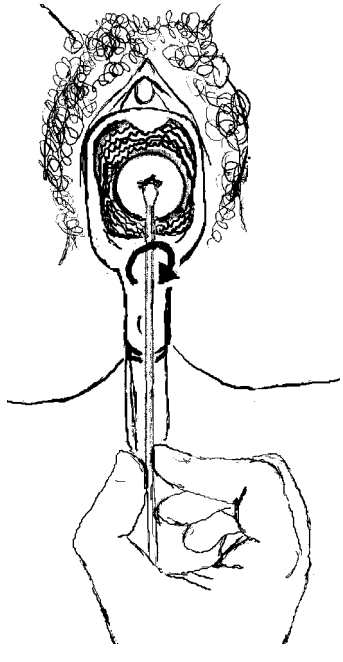
4. Place the other end of the spatula just underneath the cervix where it meets the vagina. Gently scrape sideways once.
5. Wipe the spatula onto the middle of the slide, next to the first sample.





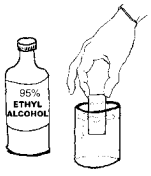
6. Put the tip of the swab or cytobrush about 1 centimeter into the opening of the cervix. Gently roll it in a full circle. This can be uncomfortable for the woman, but it is not dangerous.
7. Wipe the swab onto the end of the slide that has not been used, next to the second sample.



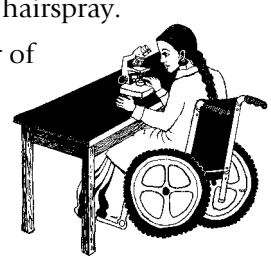


8. Put a fixative on the slide.

There are many fixatives available, but the least expensive is medical alcohol (95% ethyl alcohol). Pour some medical alcohol into a small jar and dip the slide into the jar of alcohol as soon as you have finished wiping the swab onto the slide. You must do it quickly, before the tissue dries. Let the slide sit in the medical alcohol for a few minutes, and then let the slide dry in the air. If you do not have medical alcohol, you can spray the slide with hairspray.



You must use a fixative on the slide or the thin layer of tissue from the cervix will smear or come off and the test will not be accurate.



9. Take the slide to a laboratory that can examine Pap tests (not all laboratories can). Take the slide within a week after doing the test.

Note: Tell the woman that a little bleeding from the vagina is normal after a Pap test.

Cancer of the cervix

Cancer of the cervix can be a deadly disease, but if it is treated early, it can usually be cured. Treatment is simple in the early stages. A trained doctor or nurse can remove or destroy the diseased parts of the cervix in a medical center if they have the right tools. After the diseased parts of the cervix have been removed, the woman will usually get better. But hundreds of thousands of women die every year from this cancer.

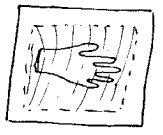
Why do so many women die if the disease is preventable and easily treated?

- Poor communities cannot afford to train health workers to test or treat women for HPV, a common cause of cancer of the cervix.
- Rural and poor women may not be able to travel to distant medical centers that give testing and treatment.
- Women and men do not know that they can prevent cancer of the cervix by protecting themselves from HPV. For example, wearing condoms can prevent women and men from getting HPV.
- Some women cannot protect themselves from HPV because they do not have access to condoms. Some women cannot protect themselves because they are forced to have sex or to have unsafe sex. Some couples do not like to use condoms.

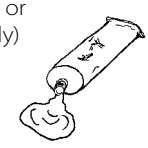
The bimanual exam (2-hand exam)

Feel the womb with 2 hands to check for infections or growths, or to learn how long a woman has been pregnant. To feel the womb, you will need:

very clean or sterilized plastic gloves

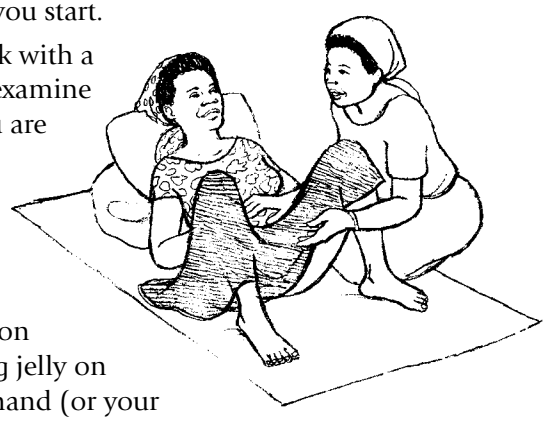


water-based lubricating jelly like *K-Y Jelly*, or clean water (do not use oil or petroleum jelly)

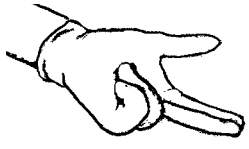


Ask the woman to urinate before you start.

1. Have the woman lie on her back with a pillow under her head. As you examine her, explain everything that you are going to do before you do it, remind her to relax, and stop the exam if she is in pain.



2. When the woman is ready, put on gloves and put some lubricating jelly on the first 2 fingers of your right hand (or your left hand if you are left-handed).



Ask the woman to take a deep breath to help her relax. Gently open the lips of her genitals with your left hand. With the palm of your right hand facing up, put your two lubricated fingers all the way into the woman's vagina.

3. Feel the cervix with your fingertips.

The cervix should be firm, round, and smooth. Normally, it feels about as hard as the tip of a nose. In the last months of pregnancy it feels soft, like lips. Sometimes at the end of pregnancy the cervix is a little open. If the woman has just had a miscarriage or an abortion, her cervix might be open.

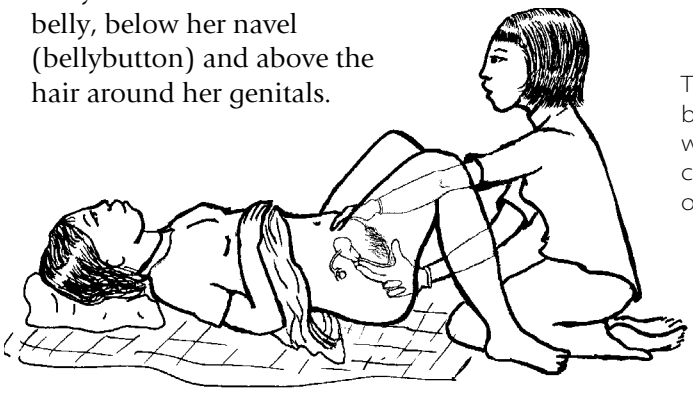
The cervix can be hard to find. If you cannot feel the cervix, ask the woman to cough or push down as if she were passing stool until the cervix touches your finger. It may also help if the woman lies more flat.

Take care not to touch the woman's clitoris, which is sensitive, or her anus, which has germs on it. Your thumb can easily touch the clitoris accidentally, so keep it to one side.

4. Check for pain in the cervix.

Put one of your fingers on each side of the cervix and move it side to side. This might feel strange to the woman, but it should not hurt. If it hurts, she might have an infection in her womb (see page 325) or a tubal pregnancy (see page 113). These are both very dangerous. If the cervix feels soft and is easy to move, the woman may be pregnant.

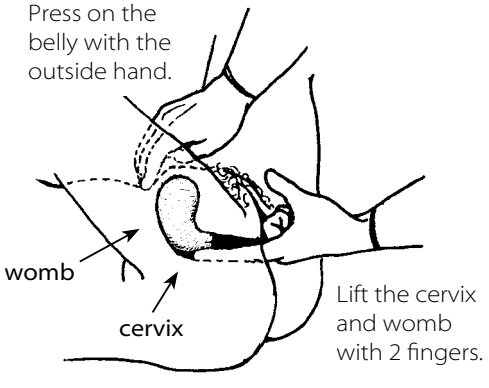
5. Put your left hand on the woman's belly, below her navel (bellybutton) and above the hair around her genitals.



This is how a bimanual exam would look if you could see the inside of a woman's body.

6. Feel the womb.

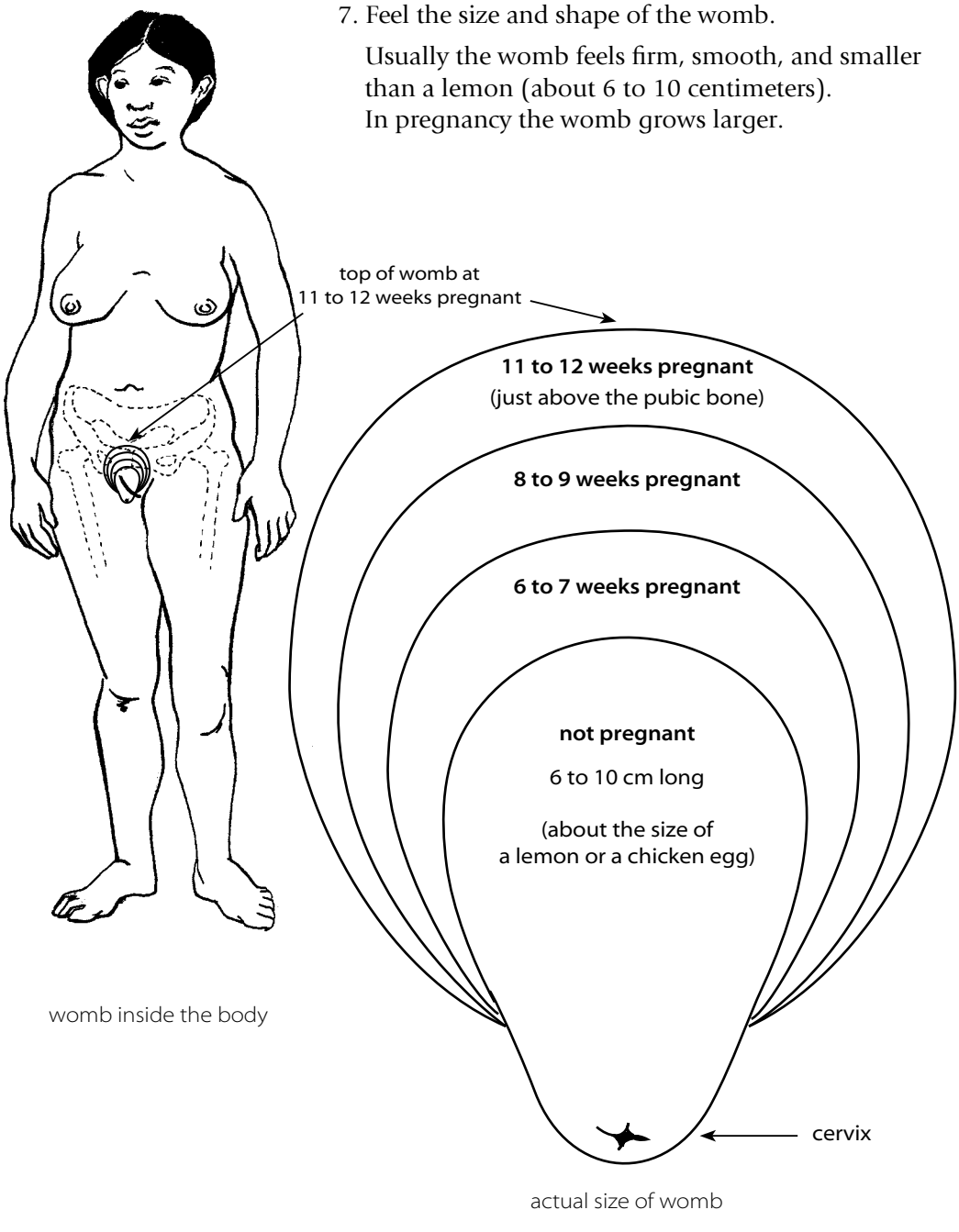
Put the 2 fingers that are in the vagina under the cervix. Lift up the cervix and womb with those 2 fingers. At the same time, press down on the woman's lower belly with your left hand. Try to feel her womb between your hand and your 2 fingers. You will know that you are pressing on the womb when you feel the cervix move. If you do not feel the womb at first, try moving your hand around on her belly and pressing down in different places.



Feeling the womb takes practice. It is especially difficult to feel a woman's womb if she has strong belly muscles or if she has a lot of fat on her belly.

7. Feel the size and shape of the womb.

   Usually the womb feels firm, smooth, and smaller than a lemon (about 6 to 10 centimeters). In pregnancy the womb grows larger.


top of womb at
11 to 12 weeks pregnant
11 to 12 weeks pregnant
(just above the pubic bone)
8 to 9 weeks pregnant
6 to 7 weeks pregnant
not pregnant
6 to 10 cm long
(about the size of
a lemon or a chicken egg)
cervix

womb inside the body

actual size of womb

To measure the womb after 12 weeks, see page 130.

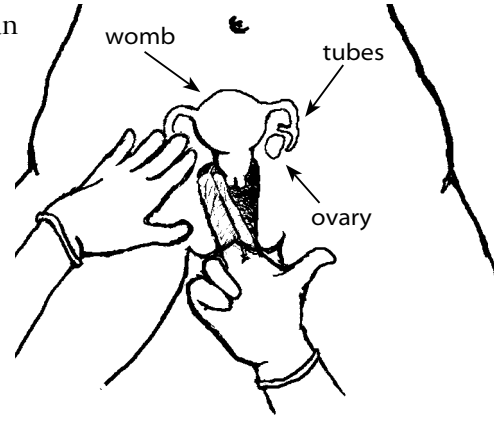
You might feel lumps or growths on the womb. Some growths are not dangerous, but they may cause pain, heavy monthly bleeding, or bleeding between monthly bleedings. They are called fibroids. Other growths may be cancer of the womb. You cannot be sure the growths are not dangerous until the woman has more tests. If you feel growths on the womb, get medical help.

8. Feel the ovaries.

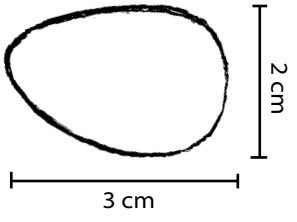
Finding and feeling the ovaries can be very difficult. It takes a lot of practice.

Put both your inside fingers on one side of the cervix and lift up the ovary. Move your outside hand to the same side of the woman's body as the inside fingers and slide your outside fingers down her belly. When you press hard, you can feel her ovary slip between your fingers.

You must push down deeply with your outside hand, so ask the woman to take a deep breath and let it go before you feel her ovary. Stop pushing if she is in pain!



An ovary is usually about this big.

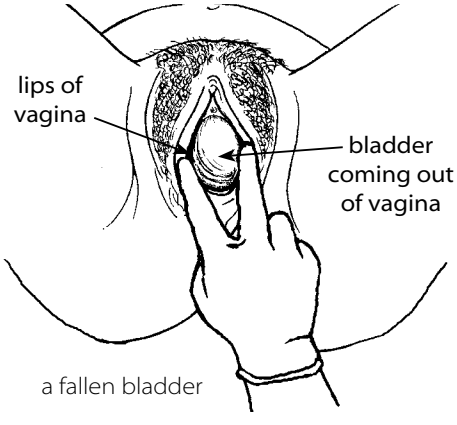


After checking one side, move your hands to check the other ovary.

If you feel something bigger than 3 centimeters long and 2 centimeters wide, or if this exam hurts her a lot, she might have a growth on her ovary, or she might have a tubal pregnancy (see page 113). Get medical help.

Note: It is normal for a woman's ovary to get bigger and smaller every month. If you are not sure of the cause of a large ovary, try checking again in 6 weeks. It may be small again.

9. Take your fingers out of her vagina. Hold the lips of her genitals open and ask her to cough or push down as if she were passing stool. Watch her vagina to see if anything bulges out. If it does, she could have a fallen womb or bladder, or part of her bowel could be bulging into the vagina. Get medical advice.



a fallen bladder

After the bimanual exam, give the woman a clean cloth or paper to wipe off the jelly. Explain to her that she will have some extra discharge (the jelly) or a little blood after the exam.

Tell the woman what you found during the pelvic exam. Make sure to answer any questions the woman has.

CHAPTER 21
How to insert an IUD

In this chapter:

Help a woman decide if the IUD is right for her 390

Before you insert the IUD..... 391

Inserting the IUD 392

Loading the *Copper T* IUD 393

After you insert the IUD 398

To check the IUD 398

Signs that something might be wrong 398

Removing the IUD 399

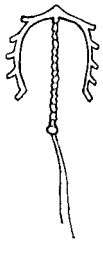
How to insert an IUD

CHAPTER 21

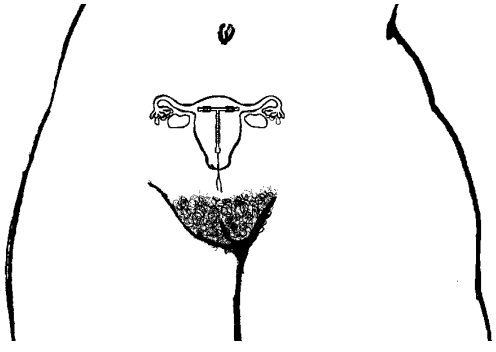
The intrauterine device (IUD) is a small device made of plastic, or plastic and copper, that is put inside the womb to prevent pregnancy. A string hangs off the end of the IUD and out of the cervix.

two types of IUD:

the *Copper T*



the *Multiload*



This is what a womb and an IUD would look like if you could see them inside a woman's body.

Some notes about learning to insert an IUD

- Before you read this chapter you must understand **infection prevention** (Chapter 5) and **pelvic exams** (Chapter 20).
- Find out what the law is where you live. In some places, midwives are encouraged to learn to insert and remove IUDs. In other places, midwives are not allowed to do this.
- Putting in an IUD can cause an infection in the womb or injury to the womb. Use this chapter to help you learn, but remember, you cannot learn as much from a book as you can from an experienced teacher. **You must be trained to insert an IUD by someone with experience.**

Help a woman decide if the IUD is right for her

The IUD is a very effective family planning method, but it has risks. Before inserting an IUD, help the woman decide if the IUD will be a good method for her.

Advantages of the IUD

- It is very effective. Very few women with IUDs become pregnant.
- It can be taken out at any time if the woman wants to become pregnant.
- It is easy to use. Once it has been inserted into the womb, the woman only has to check to make sure it is still there once a month. She does not need to check it before or after having sex.
- One IUD (the Mirena) contains a small amount of hormones. This IUD can make monthly bleeding very light or stop altogether, and can reduce cramping.

Disadvantages of the IUD

- IUDs do not protect women from getting HIV or other sexually transmitted infections (STIs) — see Chapter 18.
- A woman cannot put in or take out an IUD herself. A woman who uses an IUD must be able to get to a medical center that can help her if she has problems because of the IUD or that can remove the IUD if she wants to get pregnant.
- IUDs can cause changes in monthly bleeding. Most types may cause an increase in cramping or bleeding. The Mirena IUD may cause light, irregular bleeding or spotting.

IUDs are harmful for some women

Do not insert an IUD in a woman who:

- has an STI. If a woman has an IUD inserted when she has an STI, that infection can easily spread to her womb. Womb infections can cause infertility and are very dangerous. Before you insert an IUD, the woman should be tested for STIs.
- recently had an infection in her womb.
- had an abortion, miscarriage, or gave birth within the last 6 weeks.
- has anemia, or who already has very painful or heavy monthly bleeding.
- has fibroids or whose womb has an unusual shape.

Do not insert an IUD made with copper in a woman who is allergic to copper.

Freedom to choose or refuse an IUD

In some places, women are pushed to use IUDs. Some women are given IUDs without even being told that an IUD has been inserted. This happens when doctors or health workers are under pressure from local or international governments and aid groups to give IUDs to women even if the women do not want them.

These policies take away a woman's right to choose when and if she wants to use family planning. Every woman should have the right to make that choice herself.

Never put pressure on a woman to use an IUD. Read page 310 to learn more about IUDs. Every woman must understand all the risks and benefits in order to decide if she wants an IUD or not. Make sure that she does before you insert one for her.

As soon as your baby is born we insert an IUD in your womb so you do not become pregnant again.
But Marcelo and I want to have a big family!

Before you insert the IUD

Be sure that the woman does not have an STI

Ask the woman if she has any signs of an STI.
Some signs of STIs are:

- bad-smelling discharge from the vagina.
- pain, itching, or a burning feeling in the vagina.
- pain, itching, or a burning feeling when urinating.
- sores on the vagina or anus.

Remember, many women have STIs but do not have any signs. Always test a woman for STIs before inserting an IUD. If you cannot test the woman, but she is sure she wants an IUD, you can treat her for chlamydia and gonorrhea (see page 324) and put in the IUD. See Chapter 18 to learn more. Do not insert an IUD for a woman unless you are sure she does not have an STI.

Be sure that the woman is not pregnant

If you insert an IUD when a woman is pregnant, the IUD can cause a miscarriage. Make sure that a woman is not pregnant before inserting an IUD. You can be sure that she is not pregnant if:

- she is having her monthly bleeding.
- she has not had sexual intercourse any time since her last monthly bleeding.
- she is using a hormonal family planning method such as pills, injections, or implants (and wants to use an IUD instead).

Explain what will happen during the IUD insertion

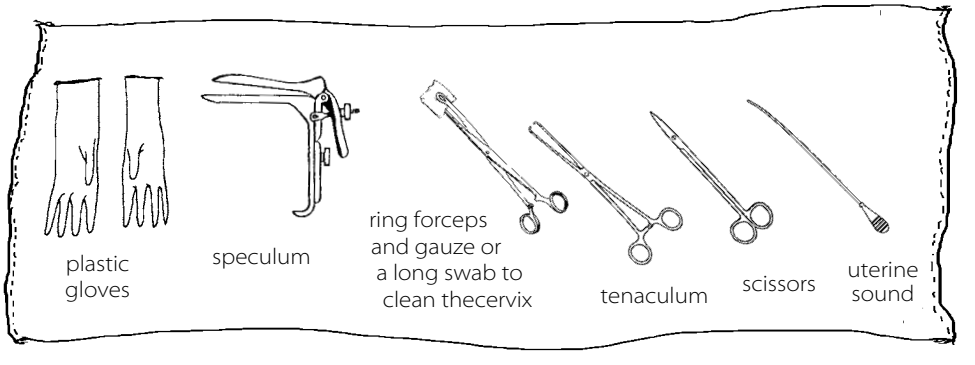
Before you insert the IUD, explain to the woman what you are going to do. Tell her that inserting the IUD may hurt a little but should not hurt much. Tell her that you will stop inserting the IUD if it hurts too much or if she wants you to stop for any reason. Answer any questions she has about the IUD or the insertion.

Inserting the IUD

There are different types of IUDs, and each type is inserted in a different way. Before you insert an IUD, you must find out how to insert the type that you have. Most IUDs come with directions.

These are the steps you should follow no matter what type of IUD you are inserting:

1. Ask the woman to urinate.
2. Sterilize all the tools you will need to insert the IUD and put them on a sterilized cloth or paper.



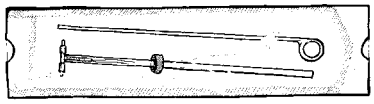
Anything that goes inside the vagina, like fingers during a vaginal exam, must be very clean. And anything that is put inside the womb, like an IUD or IUD inserter tube, must be more than clean. It must be **sterilized**.

Sterilized tools must not even touch other parts of a woman's body before they are put into the womb. The germs on a woman's body that usually do not cause harm could cause a serious infection if they got into her womb. See page 59 to learn how to sterilize tools.

You will also need:

a good source of light

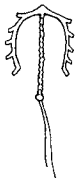
bowl of antiseptic like betadine or *Hibiclens*



IUD and IUD inserter inside sterile package

There are many types of IUDs. Three common types are the *Copper T* (or *T380A*), the *Multiload,* and the *Gyne-Fix.* All of these IUDs are safe and effective.

Copper T IUD



Multiload IUD

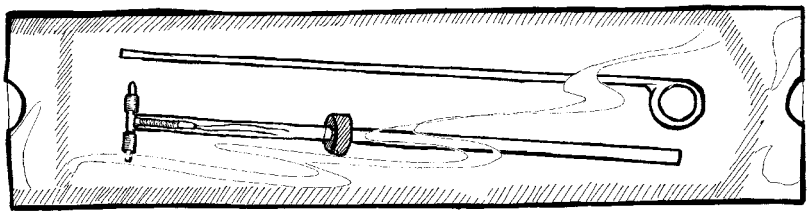
Gyne-Fix IUD

In this book, we only give information on how to use one type of IUD — the *Copper T.* We talk about this type because it is effective, safe, and popular. Other types of IUDs are inserted in a similar way as the *Copper T.* But be sure to read any instructions that come with the IUD you use.

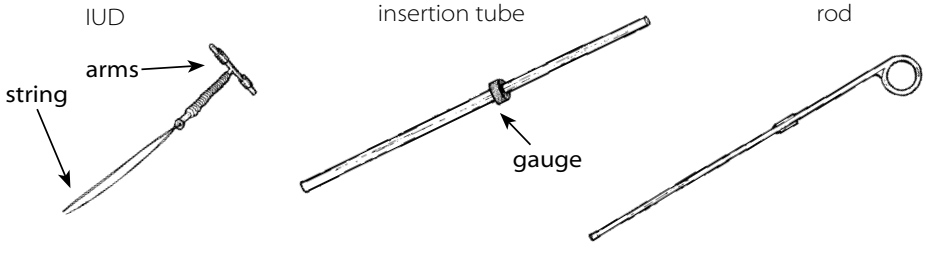
3. Load the IUD into the insertion tube.

Loading the *Copper T* IUD

The *Copper T* IUD comes in a sterilized package. Put the package on a clean table, paper side down. This way, you can see the IUD through the clear plastic cover.



Inside the package there are 3 parts:

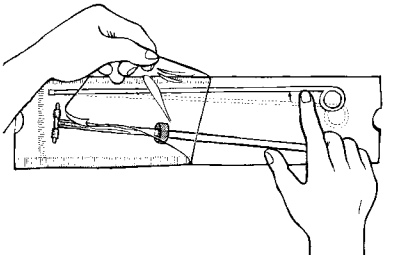


Loading the *Copper T* IUD *(continued)*

These instructions tell you how to put the IUD into the inserter while it is still inside the package. If you load the IUD into the tube while it is still inside the package — and you do not touch the IUD — it will stay sterile even if you do not have sterile gloves. Do not ever touch the IUD, or the end of the tube or rod that will go inside of the woman's womb, unless you are wearing sterile gloves.

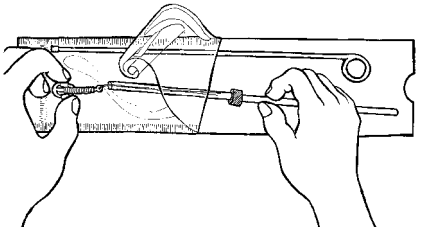
Put the IUD into the tube when you are almost ready to insert the IUD. If the IUD stays in the inserter tube for more than about 5 minutes, it will not work — the arms will not open inside the womb.

Open the package halfway, starting on the side away from the IUD, and push the rod to the side of the package to get it out of the way.



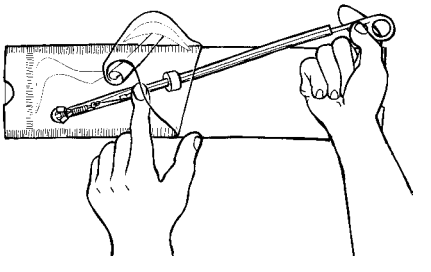
With one hand, hold the inserter tube steady. With your other hand, hold the IUD through the plastic while you load the arms into the tube. Put your thumb on one arm, and your forefinger on the other, and squeeze them together and down.

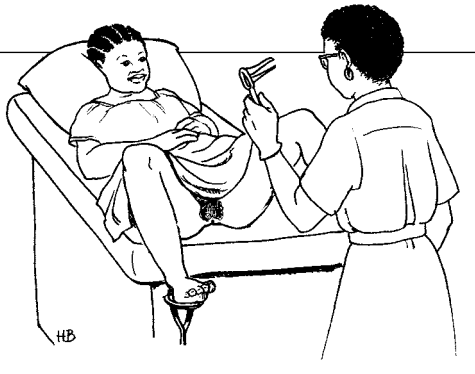
Squeeze the folded IUD into the top of the tube.



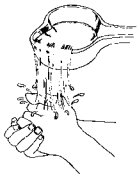
Put the rod into the other end of the tube and run it along next to the strings. Stop when it touches the bottom end of the IUD, and hold it steady there.

The IUD is now ready to be inserted.





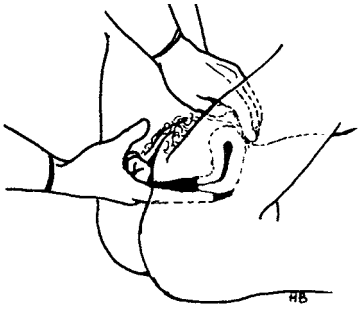
4. Have the woman lie on her back with her knees bent and open.
5. Help the woman relax. You can try taking deep breaths with her, speaking quietly, or putting a reassuring hand on her shoulder.



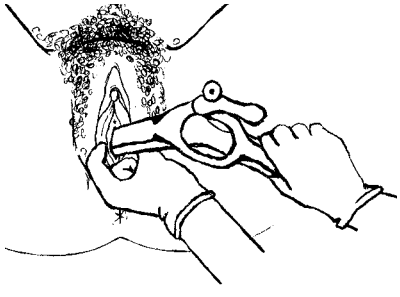
6. Follow the instructions on page 53 to scrub your hands with soap and water. Let your hands dry in the air and then put on sterilized gloves.

7. Feel the woman's womb (see page 384).

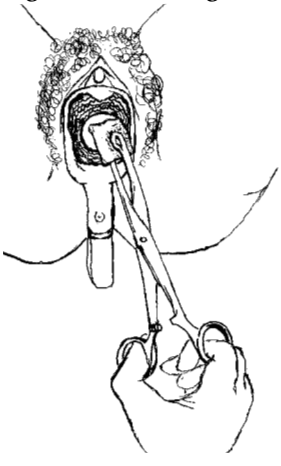
- Find the position and size of the womb.
- Make sure the woman is not pregnant.
- Make sure the womb is not enlarged or in pain.



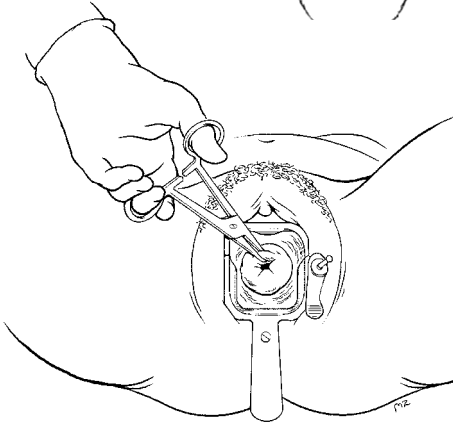
8. Gently insert a sterilized speculum (see page 377).



9. Clean the cervix with antiseptic. You can use a long swab or a ring forceps and sterile gauze dipped into antiseptic.



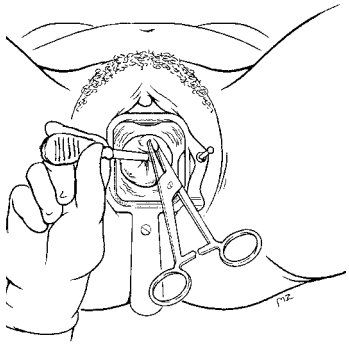
10. Grasp the cervix with a tenaculum and close the tenaculum slowly. Pull the cervix gently to straighten the womb. The womb must be straight while you are inserting the sound and while you are inserting the IUD. If this is painful for the woman, stop. Take a break and ask her to tell you when she is ready to go on.



11. Measure the womb by inserting a sterile sound through the opening of the cervix and into the womb.

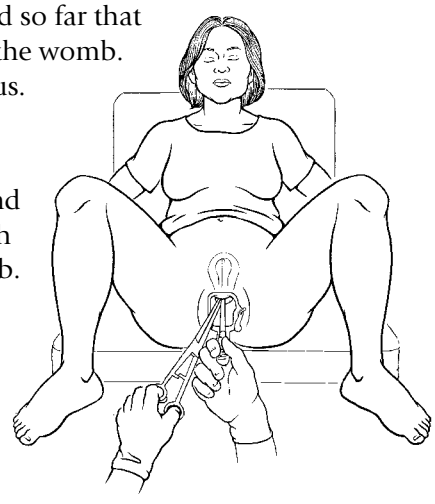
You must hold the sound only by the handle, and carefully insert it into the cervix. Do not let it touch anything but the cervix. The sound will not be sterile if it touches anything — even the woman's vagina.

> Rarely, a woman may start to feel dizzy or ill when you are inserting a sound or IUD into her womb. She may be having a vagal reaction (see page 426).



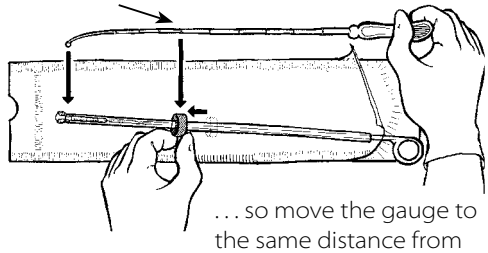
Insert the sound gently and firmly. If it is difficult to push the sound through the cervix, turn it as you push. Do not push too hard. This could push the sound so far that you could puncture the womb. This is very dangerous.

Once the sound is through the cervix, gently push the sound until you feel it touch the back of the womb.



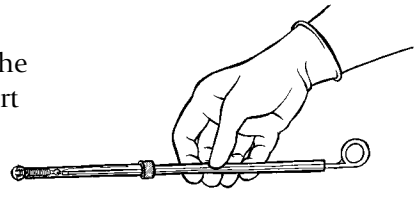
The sound has marks on it that are 1 centimeter apart. When you pull the sound out, it will be wet up to a mark. This tells you the size of the womb.

12. When you know the size of the womb, you can set the inserter so it will be the same length as the womb.

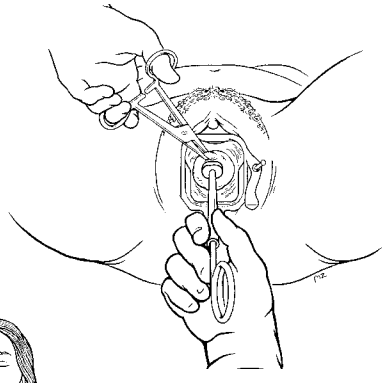


Look at the IUD inside the package. The inserter tube has a small movable gauge on it in the package. Move the gauge on the tube to the same size as the womb. Do this by pushing on the gauge while the sterile IUD is still inside the package.

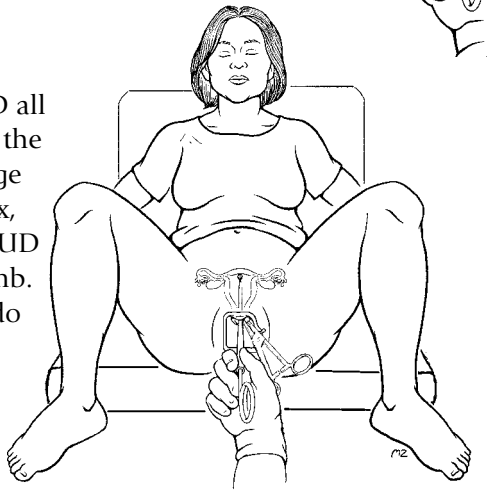
13. Now open the package all the way, take the inserter tube out of the package, and insert the IUD into the womb. Keep the IUD sterile! Do not let it touch anything, even the side of the vagina.



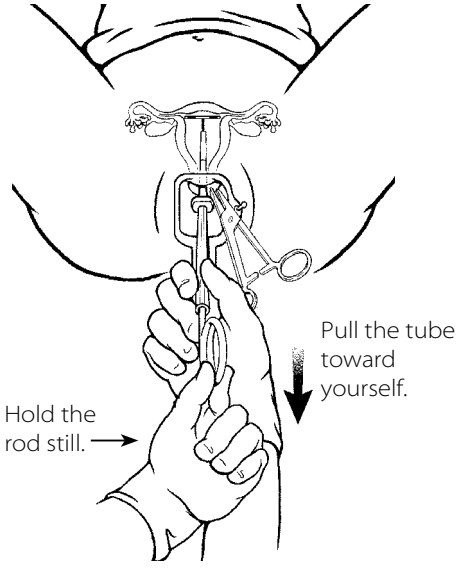
Hold the cervix steady with the tenaculum, and slowly push the tube with the IUD in it into the opening of the cervix. Never force the IUD into the womb, even if it is difficult to insert.



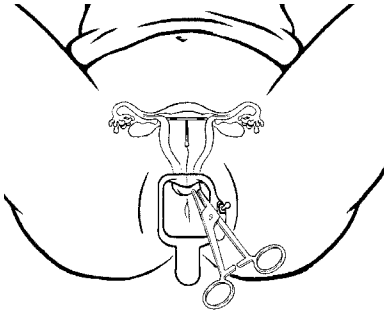
Push the tube and IUD all the way to the back of the womb. When the gauge stops against the cervix, you have pushed the IUD to the back of the womb. If you feel resistance, do not push any farther.



Hold the rod steady. This will keep the IUD in place. Without letting the rod move, slowly pull the tube toward yourself.

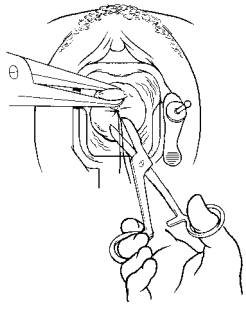


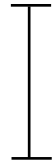
When the tube comes out of the cervix, you can pull the rod toward yourself and out of the cervix.



Then remove both the tube and the rod.

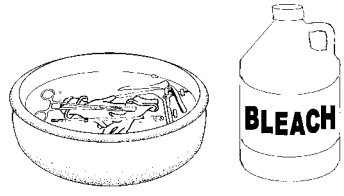
14. Cut the strings so that about 2 centimeters hang out of the cervix. Gently remove the tenaculum and the speculum.
15. Put all the instruments and gloves in bleach solution or another chemical disinfectant (see page 57).
16. Throw away trash including the gauze and IUD inserter using the suggestions on page 67.
17. Wash your hands with soap and water.





2 cm

Leave about 2 centimeters of string outside the cervix.



After you insert the IUD

Explain to the woman that she may have bleeding or cramps for 1 or 2 days. Her monthly bleeding might be heavier than usual for a few months. This is normal. Tell her how to check her IUD and what warning signs to watch for (see page 399).

A woman with an IUD should get regular health checkups. She must also check her IUD to be sure it is still inside her womb and she should watch for other signs something might be wrong. If the IUD comes out, it is most likely to happen during a monthly bleeding, so she should check the IUD after her monthly bleeding each month.

To check the IUD

She should wash her hands, then put a finger into her vagina and feel her cervix. When she finds her cervix, she should feel strings coming from the opening. If she cannot feel the strings, the IUD has been pulled up into her womb, or else it has come all the way out of her and will not work anymore.

Signs that something might be wrong

If she cannot feel the strings, she needs medical help. A health worker must look for the IUD using forceps to reach inside the womb or using a sonogram to see inside the womb. Because the IUD may have fallen out, the woman must use another method of family planning if she does not want to become pregnant.

If a woman's monthly bleeding stops or she has other signs of pregnancy, she should see a health worker right away to have the IUD removed. Leaving it in during pregnancy can cause miscarriage, infection, or the baby to be born too early. Removing the IUD immediately is less likely to cause miscarriage than leaving it in.

(Remember that the Mirena IUD may cause a woman's periods to stop, so this alone is not a sign of pregnancy for women using the Mirena.)

Signs of infection

A woman with any of these signs may have an infection in her womb:

- very heavy bleeding
- blood between monthly bleeding (a little spotting can be normal in the first month)
- vaginal discharge that is different from usual
- pain in the pelvic area or belly
- pain during sexual intercourse
- fever, chills, feeling ill

The woman should see a health worker right away and the IUD should be removed.

Removing the IUD

The *Copper T* IUD can stay in the womb for 10 years. Other types may not work for this long. Any IUD can be removed whenever the woman wants. After the IUD is removed, a woman can become pregnant right away. If she does not want to become pregnant, she should use another family planning method.

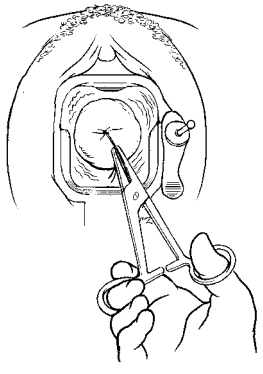
To remove an IUD:

1. Wash your hands, put on sterilized gloves, and do a bimanual exam to feel the womb and to be sure that the woman is not pregnant. Put in a speculum.
2. Use a long swab or a ring forceps and sterile gauze dipped into antiseptic to clean the cervix.
3. Clamp a pair of forceps or needle holders to the string.
4. Pull strongly and steadily on the string. The IUD should come out. If you see the plastic end of the IUD, grasp it with the forceps and pull. If you feel a lot of resistance, stop! You could break the string off. Let someone more experienced finish taking out the IUD.

The *Dalkon Shield*

In the 1970s, there was a type of IUD called the *Dalkon Shield* that was not safe. It caused serious health problems for the women who used it. The *Dalkon Shield* is not made anymore, but some women still have them in their wombs — and they should be removed. Modern IUDs are safe and effective.

The *Dalkon Shield* was an unsafe IUD.



CHAPTER 22
Helping a woman after a pregnancy ends early

In this chapter:

Problems from a pregnancy that ends early 401

Finding care after a pregnancy ends . . 401
Emotional support after a pregnancy ends 403
Physical care after a pregnancy ends 404

Emergency care for problems after miscarriage or abortion 406

Incomplete abortion 407
Infection 409
Bleeding 412
Shock 414

Work with the community to prevent unsafe abortions 415

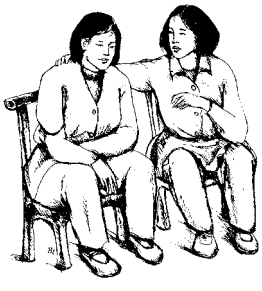
Helping a woman after a pregnancy ends early

CHAPTER 22

Sometimes a pregnancy ends early. With miscarriage the woman simply starts bleeding or having contractions until the pregnancy comes out. When a pregnancy is ended on purpose, it is called an abortion.

Most miscarriages do not cause problems, but some do. Most abortions done by people who are experienced and skilled, and with tools that have been sterilized or the correct medicines, are not dangerous. But many abortions are not done safely. For more information about miscarriage, see page 91. For more information about abortion, see page 92.

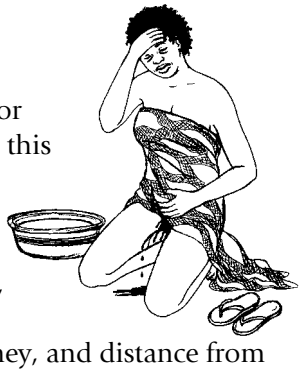
Problems from a pregnancy that ends early



A woman can have serious health problems when a pregnancy ends early. Part of the pregnancy may be left in the womb. She may have heavy bleeding or infection. Without treatment, she could die. This chapter will explain how to:

- watch for warning signs.
- give emergency care to a woman who has a problem from a pregnancy that ended early.

Finding care after a pregnancy ends



Women who have bleeding or infection after miscarriages or abortions need medical help fast. But often they do not get this help. There may be no money to pay for care if something has gone wrong. For women in isolated villages, a trip to the hospital in the city can be too far, too frightening, or too expensive. Many women, especially unmarried women, feel they must hide their condition because of attitudes against sex, family planning, or abortion. Fear, lack of money, and distance from medical care should not be reasons for women to suffer — but they often are.

Midwives can help save many women's lives, because midwives are usually the closest and most trusted health workers in their communities. When a woman who is sick or injured knows there is someone kind and skilled nearby who does not charge a lot of money for services, she is more likely to get the care she needs to prevent her death.

Unsafe abortion

Women everywhere find ways to end unwanted pregnancies. But for many women, safe abortion is not available. It is not legal or is too expensive, so women who have unwanted pregnancies try to end them in other ways. They get abortions from people who do not know how to or do not choose to do abortions safely. These people might put soap, chemicals, dung, sharp sticks, or other dangerous objects into women's wombs. Women also try to use these methods on themselves.

These methods almost never work and they are very dangerous. Tens of thousands of women die every year because of unsafe abortion. Hundreds of thousands of women are made infertile or ill.

Making a decision to help

Some midwives are afraid to care for women who have had unsafe abortions. They may think they will be blamed for causing the abortion. But even in places where abortion is not legal, it is legal to save the lives of women who are suffering after unsafe abortion.

Some midwives do not want to care for women after unsafe abortions because they believe that abortion is wrong. But caring for a woman who is in danger after an unsafe abortion is not the same as doing an abortion. After an unsafe abortion, a woman may die if she does not get help. When women are sick, for any reason, midwives must help them.

At first I did not want to help women who were sick from unsafe abortions. But if I had not helped them, they would have died!
I do not agree with abortion, but I am a midwife, and I will help any woman who is suffering or in danger.

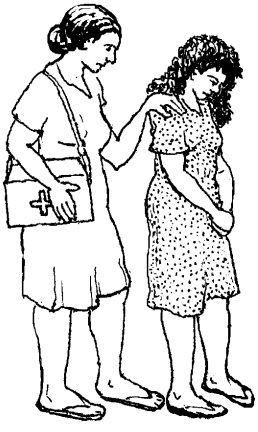
Emotional support after a pregnancy ends

Women who have had miscarriages or abortions may feel afraid, sad, or upset — especially if they have health problems that are caused by the miscarriage or abortion. This emotional pain is just as important as the pain women have in their bodies. You can help a woman with her emotional pain before, during, and after caring for her medical problems.

When a woman has a miscarriage, she may be very disappointed that her pregnancy ended. She may feel guilty — and wrongly think that the miscarriage was her own fault. See page 91 for more information on what can cause miscarriages and how to care for and support a woman after a miscarriage.

Usually, a woman who is having serious health problems because of an abortion did not get good care. An abortion provider who did not do a safe abortion may have also been disrespectful or unkind. The abortion may have been very painful or frightening for the woman. When abortion is illegal, a woman may be afraid of being punished. Be sure to give these women extra care.

Midwives can help a woman with emotional pain



Share information

- Explain what is causing the illness or bleeding.
- Explain what you are doing to help.
- If she does not want to become pregnant again, help her choose a family planning method that is right for her (see Chapter 17).

Listen and give support

- Ask her if she wants to talk about how she feels. She may not tell you unless you ask.
- Listen to her if she wants to talk or cry.
- Reassure her the way you would reassure a loved one or friend.

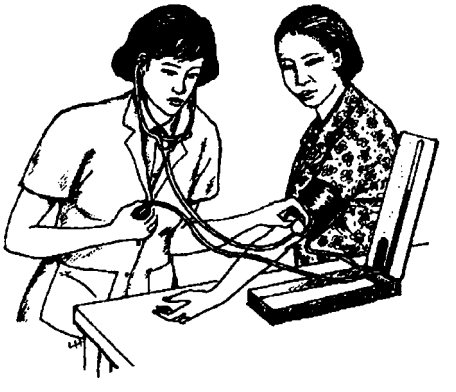
Do not blame the woman for being sick

Some people think that women get sick because they deserve to be sick. For example, some midwives think that women who have miscarriages lose their pregnancies because they are bad people. Others think that women who get sick after abortion are being punished for having the abortion. The truth is that no one deserves to be sick, and everyone deserves to be cared for when they are sick.

Blaming women for their own sickness does not help them become healthy.

Physical care after a pregnancy ends

Check the woman's physical signs — like her temperature, pulse, and the amount she is bleeding. This will tell you what kinds of medical help she needs.



HEALTHY SIGNS

- Mild pains or cramps in the lower belly for a few days.
- Light bleeding (up to the same amount as normal monthly bleeding) for a few days or very light spotting for up to 2 weeks.

WARNING SIGNS

- Strong cramping in the lower belly.
- Swollen or hard lower belly.
- Heavy bleeding, large clots of blood, or bleeding for more than 2 weeks.
- Bad smell from the vagina.
- High temperature, 38°C (100.4°F) or above.
- Fast pulse, over 100 beats a minute.
- Feeling very nauseated.
- Feeling faint or dizzy.

You should also ask her about this pregnancy.

Find out how long she was pregnant. A woman whose miscarriage or abortion happened early in her pregnancy is easier to help than a woman whose miscarriage or abortion happened later. If a woman was pregnant for more than 3 months and is now having problems, get medical help.

Ask how the pregnancy ended. If the woman had a miscarriage or if her abortion was provided by a trained health worker who used sterile tools, she is less likely to have serious infection or injury than a woman whose abortion was done by someone who used unsafe tools. For example, if the woman tells you that someone used a sharp wire to give her an abortion, you will know to look for signs of injury inside the body (page 413).

The rest of this chapter describes how to help a woman who is having problems after a miscarriage or abortion.

> Remember, women may not talk easily about what happened after a miscarriage or abortion. Ask questions respectfully. And be sure she knows you will not share what she tells you with anyone except other health workers.

Tell women how to care for themselves

A woman should take good care of herself for a few days after any miscarriage or abortion. This can prevent her from getting an infection, and will help her body heal faster. Women should:

- drink plenty of liquids and eat nutritious food (see pages 33 to 42).
- rest often.
- avoid heavy work for a week.
- bathe regularly, but should not douche or sit in a bath or tub of water until a few days after the bleeding stops.
- use clean cloths or pads to catch any blood, and change the pads often.

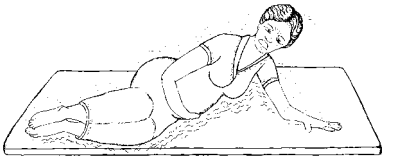
Also, the woman should not put anything inside her vagina, and should not have sexual intercourse for at least 2 weeks, and not until a few days after she stops bleeding.

Emergency care for problems after miscarriage or abortion

The 2 most dangerous problems that women can have after miscarriage or abortion are bleeding too much and infection.

Infection can happen when:

- tissue from the pregnancy is stil woman's womb after the miscarriage or abortion (see the next page).
- germs get into the womb during an abortion, when something that was not sterilized is used in the womb.

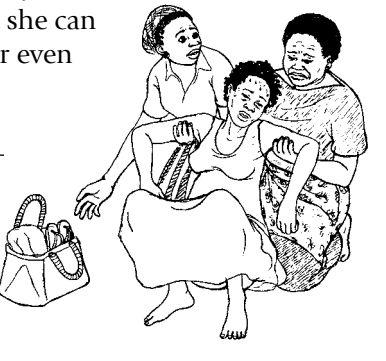


See page 409 for more about infection.

Bleeding too much can happen when:

- tissue from the pregnancy is still inside the woman's womb after the miscarriage or abortion.
- the womb or vagina has been cut with a tool during an abortion (see page 413).
- the womb becomes infected.

WARNING! If a woman has heavy bleeding or a serious infection, she can go into shock (see page 414) or even die. Get medical help fast.



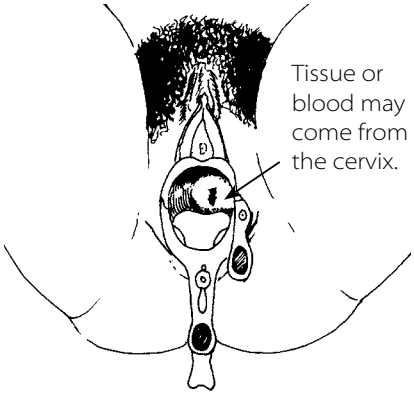
If you have been trained to help a woman after an unsafe abortion or miscarriage, you can help her yourself.

Incomplete abortion (tissue left inside the womb)

Incomplete abortion is a common cause of bleeding or infection. The bleeding or infection will not stop until all the tissue has been removed from the womb.

WARNING SIGNS

- **Tissue coming out of the womb.** If you do a pelvic exam you might see pieces of tissue coming out of the cervix or you might feel that the womb is still enlarged because of tissue inside it.
- **Infection.** The woman might have a fever, a bad smell coming from her vagina, or pain in her belly. (See page 409.)
- **Heavy bleeding from the vagina.** (See page 412.)



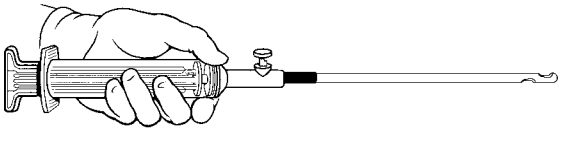
Treating incomplete abortion

There are several ways to empty the womb after an incomplete abortion. In this book, we explain how to use:

- MVA
- medicines
- forceps or other ways to remove tissue from the cervix, if you cannot use the first 2 methods.

MVA

The best treatment for incomplete abortion is to empty the womb using manual vacuum aspiration (see Chapter 23). Even though MVA is usually only safe in the first 3 months of pregnancy, it is worth trying after 3 months for a woman who has an incomplete abortion.



syringe and cannula for manual vacuum aspiration

Treating incomplete abortion with medicines

Two medicines can help empty the womb after an incomplete abortion — misoprostol and ergometrine. Misoprostol can be given by mouth or inserted in the rectum — it makes the womb contract and pushes out any tissue. It is best to use this medicine when you have access to emergency care, including MVA, because it can cause heavy bleeding and does not always empty the womb completely. Ergometrine is another medicine that causes contractions and can be given by mouth or injection.

To empty the womb after an incomplete abortion

- give 600 mcg (micrograms) misoprostol ... by mouth
  The woman should dissolve tablets against her cheek or under her tongue and then swallow any remaining parts. If she cannot swallow, insert pills in her rectum where they will dissolve and be absorbed. Wear a glove. Misoprostol can be given up to 2 times, 24 hours apart.

or

- give 0.2 mg ergometrine ..... by mouth, 1 time only

or

- inject 0.2 mg ergometrine ..... in the muscle, 1 time only

When misoprostol is used to end a pregnancy

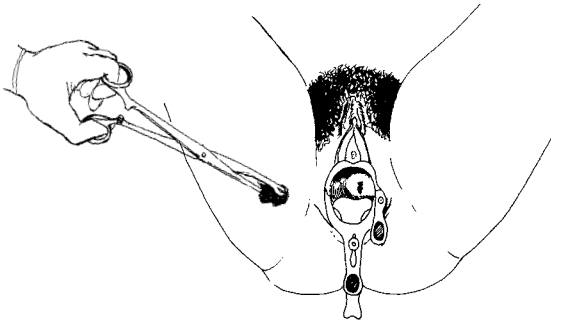
Misoprostol can be used, usually with another medicine called mifepristone, to end a pregnancy in the first 3 months (see page 485). Because misoprostol is available at pharmacies and is not expensive, some women use it by itself to end their pregnancies.

Access to emergency care is very important when ending a pregnancy with misoprostol because it can cause heavy bleeding, incomplete abortion, or other dangerous problems. Emptying the womb using misoprostol alone may take several hours or several days to finish. If it does not empty the womb completely, the woman must find someone to empty her womb in another way.

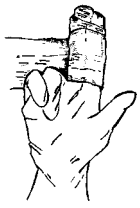
WARNING! **Do not use misoprostol after 12 weeks of pregnancy**. The womb becomes more sensitive and can split open.

Removing tissue from the cervix

If you cannot do MVA, cannot give medicines, and you cannot find someone else to empty the womb, do a speculum exam (see page 377) and look for tissue or clots of blood coming out of the cervix. Use a sterilized forceps or long tweezers to remove the tissue or clots. This does not always work, but it is better than doing nothing.



If you do not have a speculum but you do know how to do a bimanual exam (see page 384), wash your hands well and put on sterile plastic gloves. Put 2 fingers into the woman's vagina to feel her womb. Move your fingers across the opening of the cervix. If you feel tissue coming from inside the cervix, gently try to remove it. If it is too slippery to hold, wrap two fingers with sterile gauze or a thin piece of sterilized cloth and try again to remove the tissue. This might be painful for the woman, so be very gentle. This method is rarely helpful, but it is better than doing nothing.



WARNING! **If you are not able to remove the tissue from an incomplete abortion, you must get medical help immediately** so the tissue can be removed. On the way to the medical center, treat the woman for infection with the medicines listed on page 410, and watch for shock (page 414).

After you remove the tissue:

- Feel the womb from the outside to see if it is soft. Rub the womb every few hours to keep it hard (see page 224).
- Watch for signs of infection (see below).

Infection

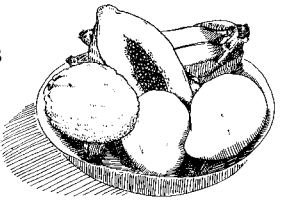
A woman with an infection in the womb is in serious danger. The infection can cause injury to the womb, and can spread into the blood (sepsis). Sepsis is very dangerous and can cause shock or death. Women mainly get infections after abortions when unsterile tools were used, or after miscarriages and abortions that were not complete, but even an abortion that was done safely can sometimes cause an infection.

WARNING SIGNS

- High temperature, above 38°C (100.4°F).
- Fast pulse, over 100 beats a minute.
- Feeling chills and shivering.
- Swollen, hard, or painful belly.
- Bad-smelling fluid coming from the vagina.
- Feeling ill or weak.

To help a woman with an infection

- If she still has tissue in her womb, the infection will not get better until the tissue is removed. Use one of the methods on pages 407 and 408 to empty the womb.
- Give antibiotics (see below).
- Read page 411 for how to prevent tetanus infection.
- Help the woman drink lots of fluids. This will help the body fight infection. If she has a hard time drinking, give her rehydration drink (page 160), rectal fluids (page 342), or an IV (page 350).
- Help the woman eat nutritious food. Some fresh fruits like oranges, guava, papaya, mangos, and breadfruit have vitamin C, which helps fight infections.



- If you know how to use plant medicines to stop infections, the woman can take them, but **do not put any plant medicines into the womb**. (See page 19 for ideas about how to decide if plant medicines are useful or harmful.)

To treat infection

Get medical help. On the way, give these medicines. For complete information on these medicines, see the green medicine pages starting on page 463.

- inject 2 g ampicillin ..... in the muscle, then reduce the dose to 1g, 4 times a day

and

- inject 300 mg gentamicin ..... in the muscle, 1 time a day
  (or 5 mg gentamicin for each kg the woman weighs)

and

- give 400 to 500 mg metronidazole ..... by mouth, 3 times a day

Stop giving these antibiotics when the signs of infection have been gone for 48 hours. Then start giving doxycycline tablets.

When signs have been gone for 48 hours

- give 100 mg doxycycline ..... by mouth, 2 times a day for 10 days

If you cannot inject medicines or you do not have the above medicines

You can give medicines by mouth instead.

- give 3.5 g ampicillin ..... by mouth, 1 time only

and

- give 100 mg doxycycline ..... by mouth, 2 times a day for 10 days

Tetanus (lockjaw)

Tetanus is a type of infection that can be caused by unsafe abortion.

Women who have not been vaccinated against tetanus face a high risk of becoming sick or even dying from tetanus if anything that was not sterilized was put into their womb during an abortion.

If a woman had an unsafe abortion and she may not have been vaccinated against tetanus in the last 10 years, give her tetanus antitoxin immediately.

To protect against a tetanus infection

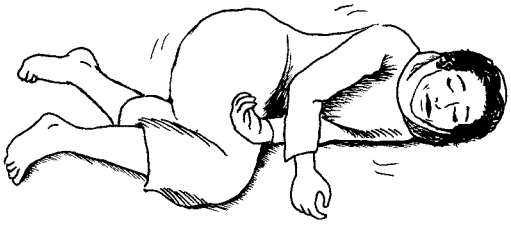
- inject 1500 Units tetanus antitoxin .....in the muscle

  and *4 weeks later*

- inject 0.5 ml tetanus toxoid vaccination .....in the muscle

Signs of tetanus

- headache
- difficulty swallowing
- stiff neck
- jaw spasms
- tense or rigid body
- painful muscle contractions or spasms
- convulsions



Signs of a tetanus infection might start weeks after the infection happened.

If a woman is sick with tetanus, get medical help right away. On the way, help her lie down on her side, keep her calm, and protect her from light.

All women should receive vaccinations to prevent them from getting tetanus. See page 102 for information on tetanus vaccinations.

Bleeding

It is normal to bleed about the same amount as regular monthly bleeding for a few days after a miscarriage or abortion. Some women keep bleeding a small amount for up to 2 weeks. After a couple of days, the blood should be dark, not bright red. More bleeding than this is not normal and could be dangerous. If a woman is bleeding a lot after an abortion, especially if the blood is bright red and has few clots, it means the blood is fresh and flowing. She is in danger and the bleeding must be stopped. If she keeps bleeding she could go into shock (page 414) or even die.

Women bleed too much after an abortion or miscarriage when:

- the womb does not contract normally.
- tissue is left inside the womb.
- there is an injury inside the body (see page 413).

A woman can help herself if she is bleeding heavily

If a woman is bleeding and she is by herself with no one to help her, she can try to stop the bleeding herself. This method is probably not enough to stop the bleeding, but it may slow it down.

Help the womb contract by rubbing the lower belly very hard while lying down or squatting. If there is tissue in the womb, a woman may be able to push it out by bearing down as if she is having a bowel movement or pushing a baby out.

To help a woman who is bleeding

1. Help stop the bleeding by emptying the womb (see page 407).

2. Rub her womb every few hours until it is hard (see page 224) to help it push out the blood and tissue inside of it.
3. Check the woman for infection.
4. Watch the woman for signs of shock (see page 414).

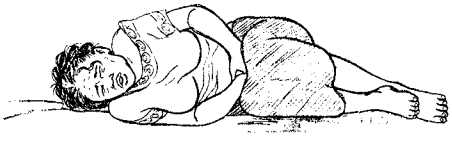
Internal injury (injury inside the body)

An internal injury from an abortion is most often caused by a sharp tool making a hole in the womb. The object may also cause harm to other organs inside the body such as the ovaries, intestines, or bladder.

When a woman has internal injuries she may have bleeding inside her belly that you cannot see. Or she may have bleeding from her vagina that you can see.

WARNING SIGNS

- Belly feels stiff and hard with no sounds or gurgles inside.
- Very bad pain or cramps in the belly.
- Fever with chills or shivering.
- Nausea and vomiting.
- Pain in one or both shoulders.
- Shock.



WARNING! **Immediately take any woman with an internal injury to a hospital or medical center to have surgery.** Without surgery she could die.

On the way to a medical center, treat the woman as you would for shock (see the next page), but do not give her any food or drink by mouth. (It is OK to give medicines by mouth and a little water so the woman can swallow the medicine.)

Shock

If a woman has a serious infection or bleeds heavily, she may go into shock.

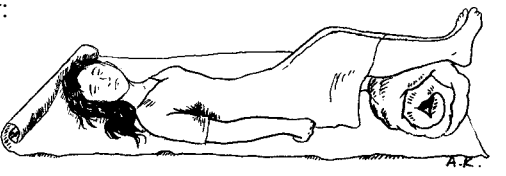
WARNING SIGNS

- She feels faint, dizzy, weak, or confused.
- She is pale and has a cold sweat.
- Fast pulse, over 100 beats a minute.
- Fast breathing.
- Dropping blood pressure.
- Sometimes loss of consciousness.

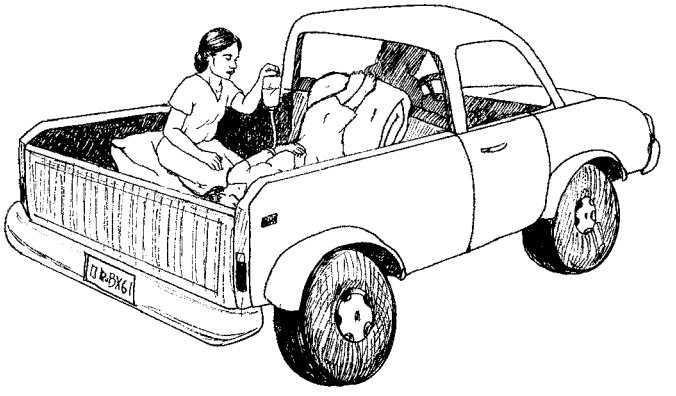
Get medical help fast. You must treat the shock first to save her life. Then follow the directions earlier in this chapter to stop her bleeding or infection.

On the way to a medical center:

- Have the woman lie with her feet higher than her head, and her head turned to one side.



- Give her fluids. If she is conscious, she can drink water or rehydration drink (see page 160). If she is not conscious, you can give her rectal fluids (see page 342) or an IV if you know how (see page 350).



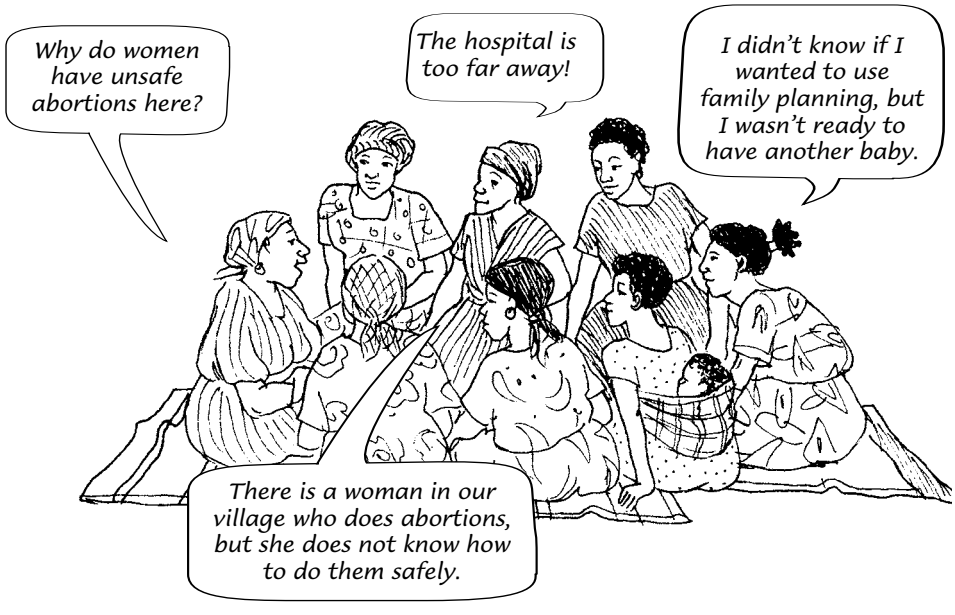
- If she is unconscious, do not give her anything by mouth — no medicines, drink, or food.

Work with the community to prevent unsafe abortions

Much of the information in this chapter is about how to save a woman's life after an unsafe or incomplete abortion. You can do more to protect women's health by working to understand and prevent the causes of unsafe abortion in your community.

Think about how things can change so that women will not need to have unsafe abortions. Then work to prevent these unsafe practices in your community. Some midwives have helped teach women about family planning. Others have worked to change community ideas about abortion. Others have worked to change laws.

Help women and others in the community discuss the shame and fear women feel if they are sick after an unsafe abortion. Work to find community solutions to help more women get the care they need.


Why do women have unsafe abortions here?
The hospital is too far away!
I didn't know if I wanted to use family planning, but I wasn't ready to have another baby.
There is a woman in our village who does abortions, but she does not know how to do them safely.

CHAPTER 23
Manual vacuum aspiration (MVA)

In this chapter:

Deciding when to do MVA **418**

Getting ready for the MVA **419**

Help the woman to be comfortable. . 419
Preventing pain during MVA 419
Prepare tools and supplies for doing MVA 420

Doing the MVA **422**

Injection to numb the cervix 424

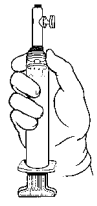
Problems with the MVA **428**

The cannula comes out of the womb 428
The syringe is full 429
The cannula becomes clogged 429
Problems that MVA can cause 430

After the MVA **430**

Manual vacuum aspiration (MVA)

CHAPTER 23



Manual vacuum aspiration (MVA) is a fast and safe way to empty the womb using a large syringe and cannula. It can be used:

- to help a woman who has had a miscarriage or abortion that was not complete.
- to regulate monthly bleeding.
- to end an unwanted pregnancy.

Using MVA to empty the womb is done the same way in each case.

In this book we explain how to use MVA to help women who have had incomplete abortions or miscarriages — when a pregnancy ends early but some tissue is left in the womb. Also see Chapter 22 which explains other ways to help a woman after an abortion or miscarriage. MVA is only part of the care that she needs.

MVA is safer, simpler, and less expensive than other methods used to empty the womb. While other methods are usually only done by doctors in medical centers, MVA can be done by midwives, nurses, or anyone who has been trained, who has the right tools, and who can sterilize those tools. If midwives and others learn to use MVA safely, more women, especially poor women and women who live in villages far from medical care, will have access to safe abortions and to life-saving care after incomplete miscarriage and abortion.

Some notes about learning MVA

- Before you read this chapter you must understand **infection prevention** (Chapter 5) and **pelvic exams** (Chapter 20).
- Find out what the law is where you live. In some places, midwives are encouraged to learn MVA. In other places, midwives are not allowed to practice it.
- Doing MVA can cause an infection in the womb or injury to the womb. Use this chapter to help you learn, but remember, you cannot learn as much from a book as you can from an experienced teacher. **You must be trained to do MVA by someone with experience.**

Deciding when to do MVA

Women who have tissue left in the womb after an incomplete miscarriage or abortion can die from infection or bleeding. MVA can help save their lives.

But MVA is also dangerous unless it is done carefully. To do MVA, you must put something into a woman's womb. Putting anything inside a woman's womb is risky because if it is not done correctly, it can give her a serious infection, or injure her womb.

Also, MVA can be done safely only up to 12 weeks of pregnancy.

Before you do an MVA, you should be sure that there is not a safer alternative. Is there a medical center nearby where health workers can empty the womb? Would this be an appropriate time to use misoprostol (see page 408) instead of MVA? **Only use MVA if it is the safest way to empty the womb.** To make an MVA safe you must:

Have sterilized equipment

Everything that goes inside a woman's womb must be sterilized (see page 59). If you cannot sterilize your tools before doing an MVA, you cannot make it safe and you should not do it!

Be trained and experienced

You cannot learn enough from any book, including this book, to do an MVA safely. You must be trained by an experienced person. Learn as much as you can from books, classes, and teachers. Help someone more experienced when she is doing an MVA so you can watch and learn.

Know that MVA is the appropriate care for the woman

Talk with the woman about why she needs an MVA. Check her physical signs, like pulse and temperature, to see if she needs other medical care as well. Find out how long she has been pregnant. **MVA is only safe during the first 12 weeks (or 3 months) of a pregnancy.** That is 12 weeks after the woman's last monthly bleeding. After that, the pregnancy is too far along for MVA to work. Only try to do MVA after 12 weeks if the woman is in serious danger after incomplete abortion or miscarriage, and you have no other way to help her. See page 88 for methods to help you know how long a woman has been pregnant.

To be sure that a woman is less than 3 months pregnant, you should do a bimanual exam (see page 384) before doing an MVA.

Incomplete abortion

A woman with an incomplete miscarriage or abortion is in serious danger. The womb must be emptied right away. Look for these signs of infection or injury:

- severe pain in the lower belly
- heavy bleeding from the vagina
- fast pulse (over 100 beats a minute)
- high temperature (over 38°C or 100.4°F)
- low or dropping blood pressure

See pages 406 to 408 to help a woman with these signs, or take her to a medical center right away.

Getting ready for the MVA

Help the woman to be comfortable

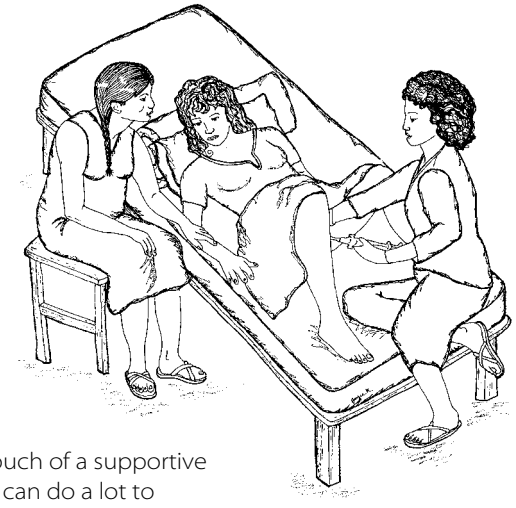
Tell the woman what you will be doing. Answer any questions that she has.

You should find a private place to do the MVA where others are not watching, and be sure to keep everything about her care confidential (see page 7).

Preventing pain during MVA

MVA can be painful. There are some things you can do to reduce the pain:

- Always tell the woman what you are doing and encourage her to ask questions.
- Move smoothly and do not rush.
- Show the woman how to take slow, deep breaths. This can help her body relax. You can take slow deep breaths too! This will help you be gentle and careful.



The touch of a supportive friend can do a lot to lessen a woman's pain

Even when you are very gentle, there can be pain. Medicine to stop pain can be expensive and may cause unhealthy side effects, but you may want to offer it to women if you can get it. Women should not have to suffer pain unnecessarily.

And remember — pain medicine cannot replace gentle and respectful care.

There are 2 types of medicine to lessen pain from MVA. You can give pills by mouth or give an injection near the cervix to numb that part of the body.

To prevent pain

- give 500 to 1000 mg of paracetamol .....by mouth, 20 minutes before you start the MVA

or

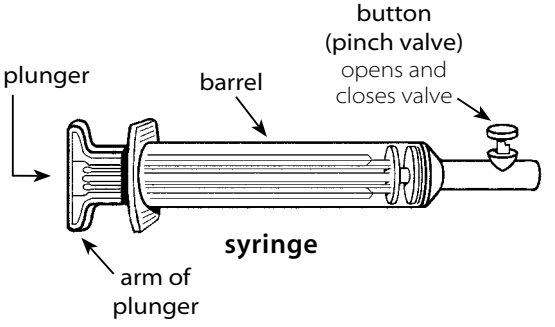
- see page 424 for instructions on giving an injection to numb the cervix

Prepare tools and supplies for doing MVA

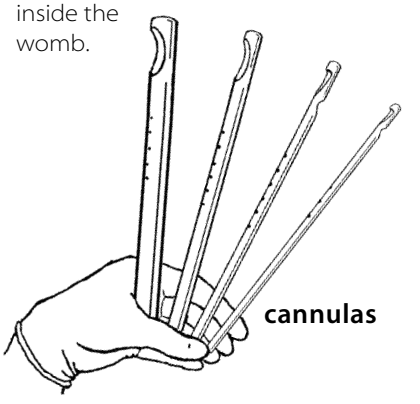
There are several different devices used to do MVA. In this chapter, we explain how to use an MVA kit made by an organization named Ipas. (See page 499 to find out how to purchase MVA kits.)

MVA kits have 2 main parts:

One part is a 50 cc syringe with a wide opening that creates a vacuum to pull the contents of the womb out.

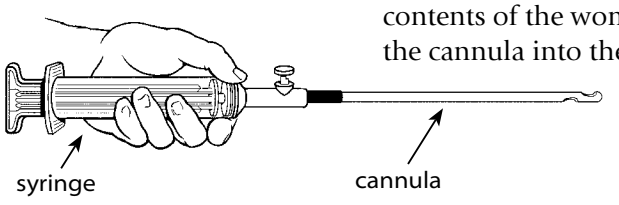


The other main part of the kit is a set of plastic tubes called cannulas. One end of the cannula will be attached to the syringe. The other end will be put inside the womb.



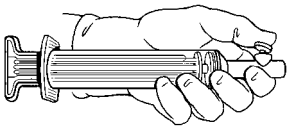
How the syringe works

When the button on the syringe is pushed in, the valve is opened and the contents of the womb are sucked through the cannula into the syringe.



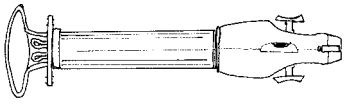
Taking care of the syringe

The syringe for MVA should be taken apart and carefully cleaned after each use. Before using it again, lubricate the rubber ring at the bottom of the plunger of the syringe with a little silicone lubricant or even a little vegetable oil. Read any directions that came with the syringe to learn how to care for it.



A 1-valve syringe for pregnancies of less than 12 weeks

A 2-valve syringe for any pregnancy up to 12 weeks

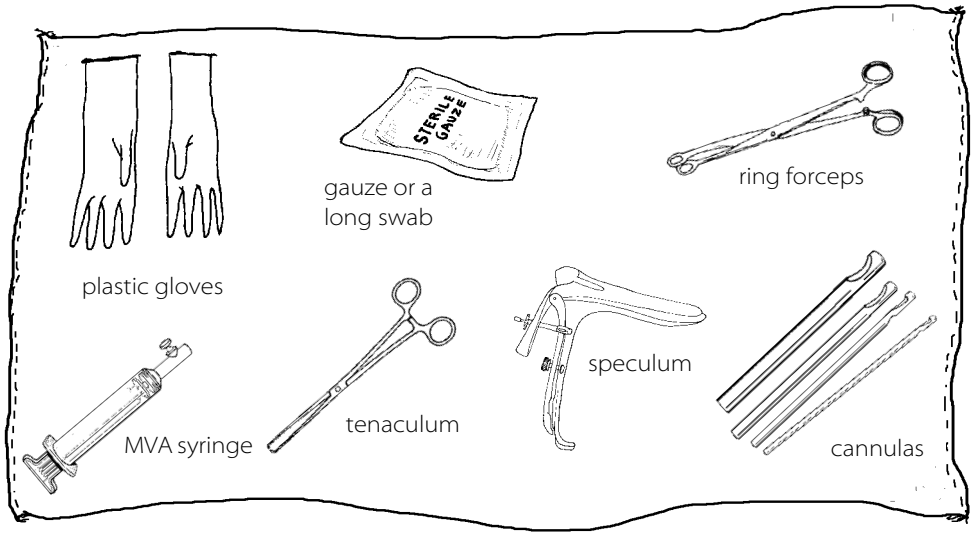


The *MVA plus* syringe for any pregnancy up to 12 weeks

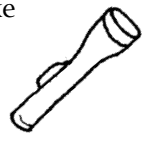
Note: Some older, smaller syringes were good only for pregnancies up to 8 weeks. Follow the instructions carefully for the syringe you have.

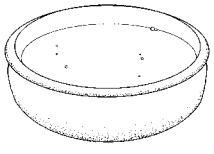
Sterilize your tools

Sterilize all the tools that you will put inside the vagina or the womb (see page 59) and lay them out on a sterilized cloth, paper, or dish. You must wear sterile gloves any time you touch a sterile tool.



You will also need a small bowl of antiseptic like *Hibiclens* or betadine to clean the outside of the cervix. And be sure you have a good source of light.

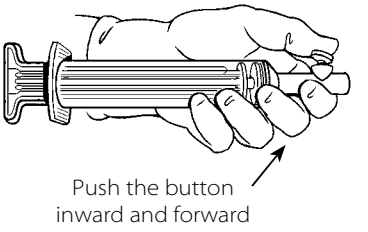




Doing the MVA

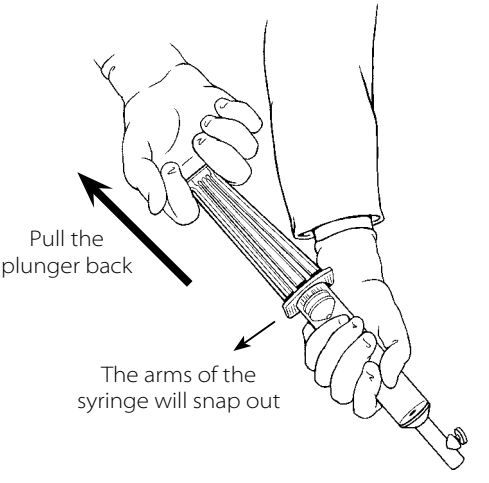
1. Create a vacuum in the syringe:

Close the valve by pushing the button inward and forward — the button will make a "click" sound and will stay stuck in place until you open it again.



Hold the barrel of the syringe with one hand and pull the plunger back with the other hand, until the arms of the plunger snap outward at the end of the syringe barrel.

Check the arms of the plunger. They should both be out as far as they can go. With the arms snapped in this position, you should not be able to push the plunger back into the barrel.

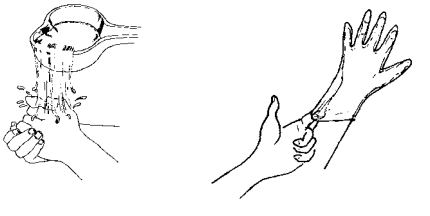


WARNING! **Never squeeze the arms of the plunger together or push the plunger into the barrel while doing an MVA.** That would push the contents of the syringe back up into the woman's womb. **This could kill the woman.**

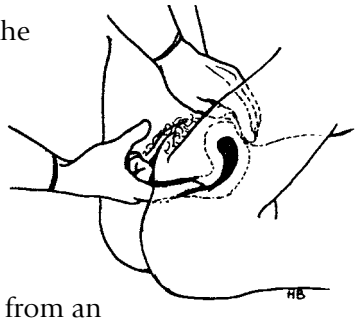
2. Shine a light on the woman's genitals so you can see well. You may need a helper to hold the light.

3. Wash your hands with soap and water for several minutes (see page 53). Let your hands dry in the air.

Put clean plastic gloves on your hands.

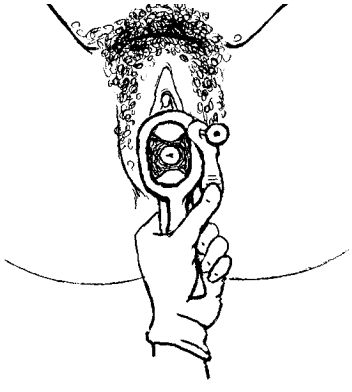


4. When the woman tells you she is ready, follow the steps on page 384 to do a bimanual exam. Feel the size of the womb. The womb should be the right size for the number of weeks the woman has told you that she was pregnant. If her womb is very big, she might have been pregnant for longer than she thinks. Do not do MVA for a woman who is more than 3 months pregnant, unless she is having serious problems from an incomplete abortion and you have no other way to help her.

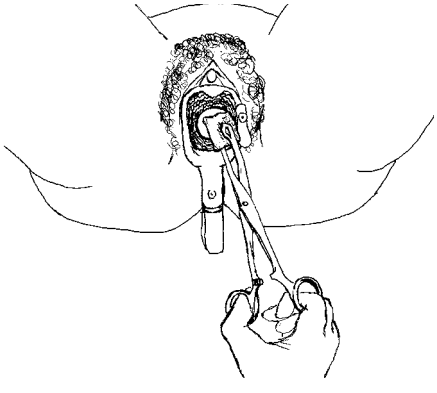


5. Take off your gloves, wash your hands, and put on new, sterile gloves. This will allow you to keep all the tools for the MVA sterile as you do the procedure.

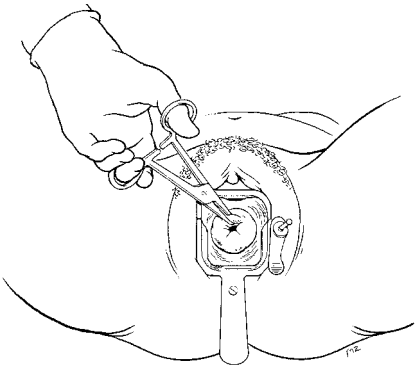
6. Gently insert a speculum (see page 377).

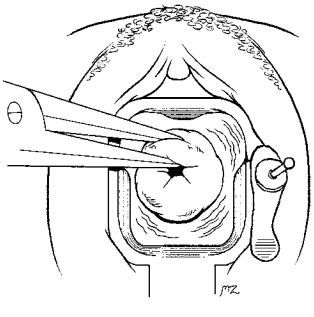


7. Dip a piece of sterile gauze held with the ring forceps, or a long swab, into antiseptic. Use the gauze or swab to wash the cervix.



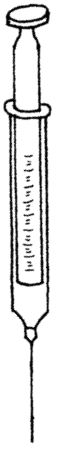
8. Ask the woman to breathe deeply and relax. When she is ready, grasp the cervix with a tenaculum or a ring forceps. Close the tenaculum and pull it a little to straighten the womb. This can be very uncomfortable for the woman, so be gentle and tell her what you are doing.





9. If you have decided to give an injection to numb the cervix, do so now.

Injection to numb the cervix

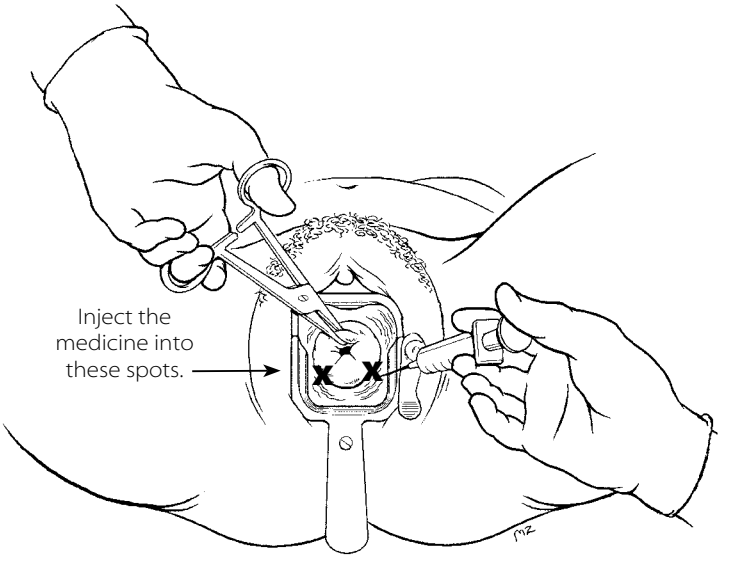


You will need a sterilized 22-gauge spinal needle (or a needle extender) and a local anesthetic with **no epinephrine** in it. 1% lidocaine is one example of a local anesthetic to use.

Before you give the injection, ask the woman if she has had this kind of anesthetic medicine before. Find out if she ever had a bad reaction to this medicine. If she has had a bad reaction, do not give the injection.

Use the tenaculum to move the cervix a little to the side until you can see the place where the cervix (which is smooth) joins the vagina (which is more rough).

Follow the directions on pages 345 to 349 to give an injection.



Insert the needle about 1 centimeter under the skin and inject 2 milliliters of medicine slowly as you pull the needle out. Repeat on the other side of the cervix.

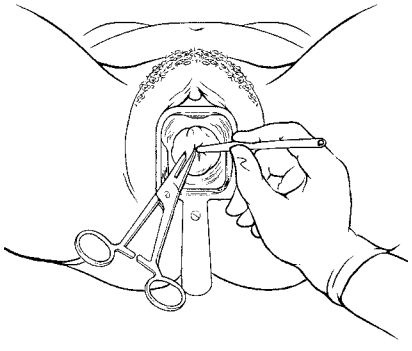
The medicine will take about 3 minutes to numb the cervix. The woman may still feel cramping after the injection, but it will not hurt as much.

10. Choose a cannula. Cannulas come in many different sizes (the size may be printed on it). **The larger a woman's womb is, the larger a cannula you should use.** This chart gives you an idea of which cannula might work best:

For a woman who is	
5 to 7 weeks pregnant *(9 cm long womb)*	use a 5 mm cannula
7 to 9 weeks pregnant *(10 cm long womb)*	use a 6 mm cannula
9 to 12 weeks pregnant *(12 cm long womb)*	use a 7, 8, 9, 10, or 12 mm cannula

11. Some types of cannula need an adapter to fit onto some syringes. If you need an adapter, attach one now.

12. Tell the woman that you are ready to start. When she is ready, gently push the sterilized cannula through the opening in the cervix. Do not let the cannula touch anything — even the walls of the vagina — before it goes into the cervix. Sometimes the cervix is too tight to let a large cannula in. If this is the case, first insert a small cannula into the cervix, and then take it out and put in a larger cannula.

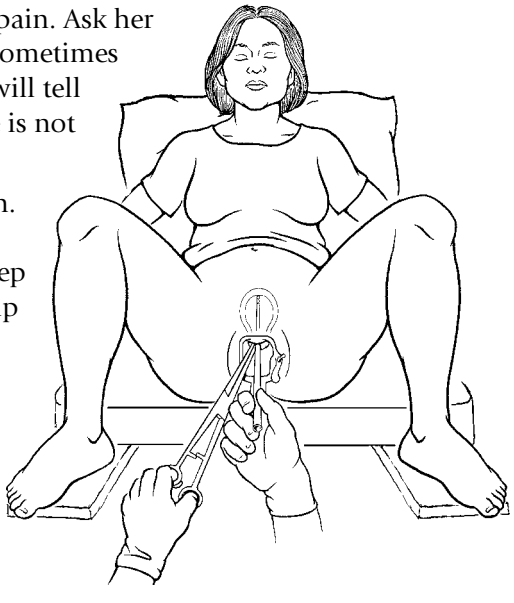


Try gently turning the cannula as it passes through the cervix. This will make it easier to insert.

As you insert a cannula, pay attention to the woman to make sure she is not in pain. Ask her to tell you if the procedure hurts. Sometimes the expression on a woman's face will tell you she is in pain even though she is not making any sounds.

If the woman is in pain, slow down. Moving slowly will help prevent injuries. Ask the woman to take deep breaths to help her relax and to help her cervix open.

13. Gently guide the cannula in until you feel it stop at the top of the womb. When you feel the top of the womb, pull the cannula back just a little. If you need to, you can let go of the tenaculum.



The vagus nerve

Sometimes when a cannula is put into a woman's womb, she feels lightheaded, dizzy, or nauseated. She may faint. This is usually because pressure was put on her vagus nerve.

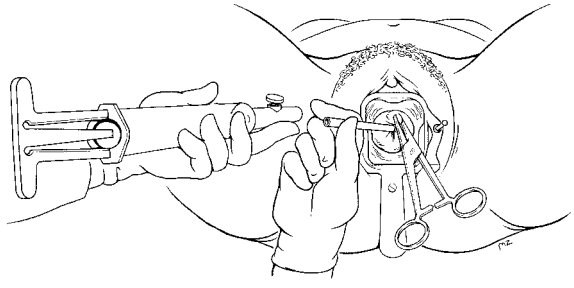
The vagus nerve starts in the back of the brain inside the head and travels all the way down the back and then down each leg. This nerve passes close behind the womb, and when something like a cannula is put into the womb it may press on this nerve.

Signs of a vagal reaction:

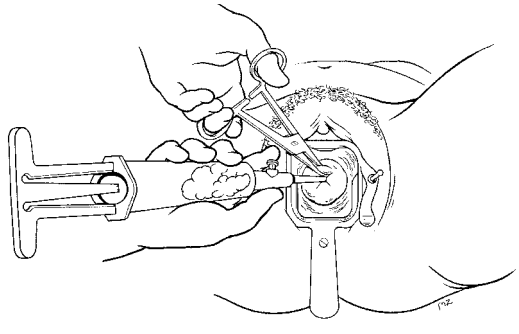
- The woman may become sweaty, cold, or pale.
- Her pulse gets faster, and her blood pressure lowers.
- She feels faint, dizzy, or nauseated.

This feels uncomfortable for the woman, but it is not dangerous. Stop the MVA. Remove the cannula, tenaculum, and speculum. Help her move off of her back and onto her side, keep her warm and calm, and wait until the feeling passes. When she feels better, you can start the MVA again.

14. Hold the syringe with one hand and the cannula with the other. Attach the syringe to the cannula by pulling the cannula slightly back onto the syringe. Make sure you do not push the cannula forward into the womb. Pushing too far will injure the womb.



15. Pinch the button on the syringe toward yourself to open the valve. The button will make a clicking sound. Foamy and bubbly fluid and some blood and tissue from the pregnancy will flow from the womb into the syringe. Some blood may also come out into the vagina.

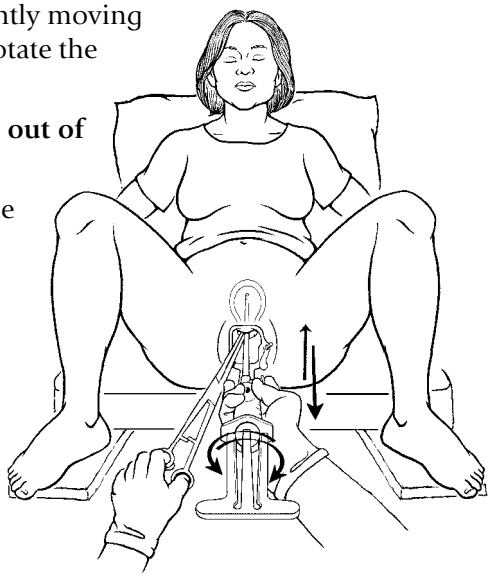


16. Empty the womb by slowly and gently moving the cannula in and out while you rotate the syringe.

Do not pull the tip of the cannula out of the womb.

If you pull the cannula tip out of the cervix, the vacuum will be broken. Even if you push the cannula back into the womb, it will not pull tissue anymore. The MVA will not be complete.

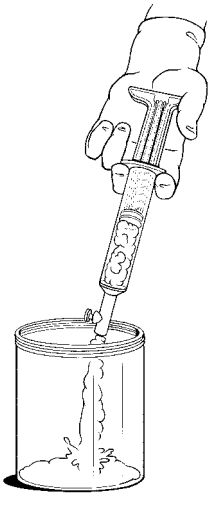
Do not push the cannula too far in or you could injure the womb.



17. Keep moving and turning the syringe until the womb is empty. Usually, the womb empties within 5 minutes.

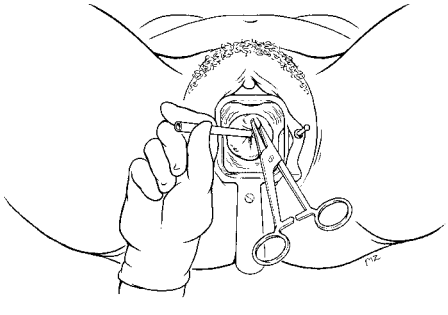
These are the signs that the womb is empty:

- There is only pinkish foam in the cannula.
- There is no more tissue in the cannula.
- When you touch the cannula tip to the inside of the womb, it feels rough and gritty.
- The womb tightens down and "grips" the cannula.

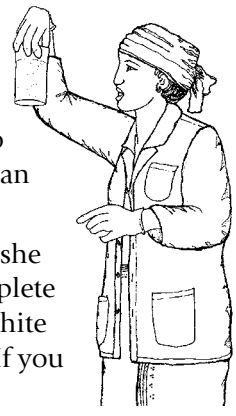


18. When the womb is empty, take the syringe off the cannula. Empty the syringe into a clear container, like a glass jar.

Now gently pull out the cannula, and then remove the tenaculum and take out the speculum.



19. Look at the tissue from the womb to see if it is complete. It is important to know if you have removed all the tissue, because if any is left inside the womb it can cause infection and bleeding.



Pour the tissue through a sieve or add some clean water to the jar it is in. What you see will depend on why the woman needed the MVA.

If the woman had an MVA to end a pregnancy or because she was bleeding from a miscarriage, you should see the complete pregnancy. After 4 weeks of pregnancy, there should be white or yellowish feathery tissue attached to a small, clear sac. If you do not see all this material, repeat the MVA.

If you are doing an MVA to empty the womb after an incomplete abortion or incomplete miscarriage, you might not see all of this tissue. Some of it may have already passed out of the womb. Take note of what you see anyway. If you did not see the complete pregnancy tissue when you did the MVA, and the woman has bleeding or signs of infection later, you should repeat the procedure.

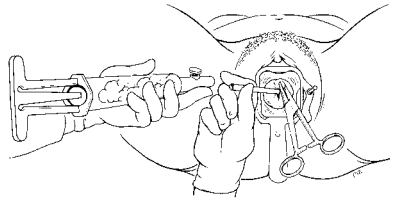
20. Use the suggestions on page 67 to 69 to safely dispose of the bloody tissue.

Problems with the MVA

There are some problems that can happen during MVA that will prevent the MVA from being complete. You must solve them to finish the MVA and to protect the woman from bleeding or becoming ill after the MVA.

The cannula comes out of the womb

If the tip of the cannula comes out of the womb after the valve has been opened, even if it comes out just a little, the vacuum will be lost. The syringe will not be able to remove any more tissue.

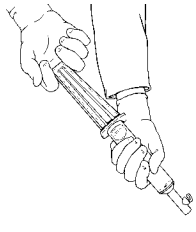


Solution:

1. Take the syringe off of the cannula.

2. Empty the syringe.

3. Put a new, sterilized cannula into the womb.



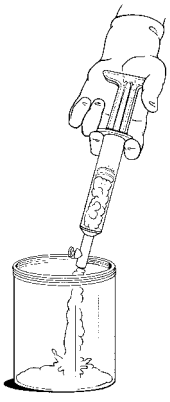
4. Make a new vacuum in the syringe — push the button down and forward to close the valve, and pull back the arms until they snap out at the end of the syringe barrel.

5. Gently attach the cannula to the syringe.

6. Open the valve by pushing the button toward yourself to continue emptying the womb.

The syringe is full

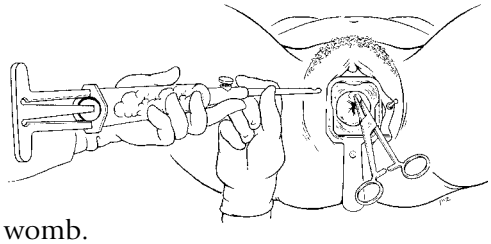
When the syringe is mostly full, it will not have enough vacuum to empty the rest of the tissue out of the womb.



Solution:

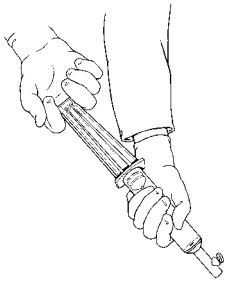
1. Take the syringe off of the cannula, leaving the cannula in the womb.
2. Empty the syringe.
3. Make a new vacuum in the syringe: Push the button down and in to close the valve, and pull back the arms until they snap out at the end of the syringe barrel.
4. Gently attach the cannula to the syringe again.
5. Open the valve by pushing the button toward yourself to continue emptying the womb.

The cannula becomes clogged



Solution:

1. Remove the syringe and cannula from the womb and take the syringe off of the cannula.
2. Empty the syringe.
3. Put a new, sterilized cannula into the womb. **You may need a larger-sized cannula.**



4. Make a new vacuum in the syringe: Push the button down and forward to close the valve, and pull back the arms until they snap out at the end of the syringe barrel.
5. Gently attach the cannula to the syringe.
6. Open the valve by pushing the button toward yourself to continue emptying the womb.

Sometimes there is a piece of tissue stuck in the cervix that continues to clog the cannula. You may be able to remove it with a pair of sterilized forceps.

The womb is too big to empty using MVA

Sometimes you may think that a woman's womb is small enough to do MVA, but after you start the MVA, you find out that it is too large. She may think she became pregnant later than she actually did. Or her womb may have felt smaller than it really was.

Solution:

If you start to do an MVA, but you cannot empty the womb all the way, first try using a larger cannula. But if you still cannot empty the womb, you must find someone else to empty her womb right away. Even if you must go to a distant hospital, you must get help. She is in serious danger.

You may also:

- give misoprostol to empty the womb (see page 408).
- watch for signs of infection (see page 409).

Problems that MVA can cause

MVA can cause problems if it is done incorrectly. Even experienced midwives will sometimes see problems after MVA. The most common problems are:

- incomplete MVA (see page 407).
- infection (see page 409).
- injury to the womb (see page 413).

After the MVA

For the next day and night, check on the woman regularly to make sure she is OK. Check her temperature and pulse for signs of infection and check to see how much she is bleeding.

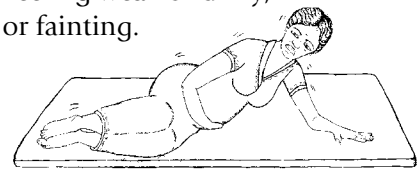
Tell the woman what to expect after the MVA. She should know to get help if she has any warning signs.

HEALTHY SIGNS

- Bleeding about as much as regular monthly bleeding for a few days to a week.
- Some cramping for 2 or 3 days.

WARNING SIGNS

- Bleeding that is more than her usual monthly bleeding — especially bright red blood or large clots.
- Bleeding for more than two weeks after the MVA.
- Bad-smelling discharge from the vagina.
- Womb that stays enlarged or that grows bigger after the MVA.
- Strong pain, increasing pain, or cramping or pain in the belly or pelvis for more than 3 or 4 days.
- Fever, chills, or feeling ill.
- Feeling weak or dizzy, or fainting.



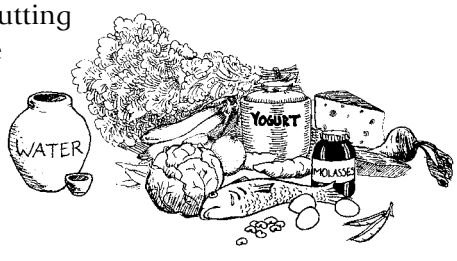
If the woman is bleeding more than a normal monthly bleeding, rub her womb every few hours (see page 224) to keep it hard and to push out any blood clots. Putting a bag of ice on her belly for 15 or 20 minutes may help too.

If she continues to bleed or has any other danger signs, get medical help.

Staying healthy after an MVA

Tell the woman what she should expect while her body heals. It is normal for her body to take a couple of weeks to feel like it did before she was pregnant. Tell her what warning signs to look for. And be sure the woman has a chance to talk about how she feels. Some women have fear, sadness, or other feelings after an MVA.

For the next few weeks, the woman should take care of her body so she can heal quickly and completely. She should avoid putting anything in her vagina and should not have sexual intercourse until she stops bleeding.



Encourage the woman to drink plenty of liquids and to eat good, healthy foods. She should rest for a few days if possible.

Family planning

After an MVA, ask the woman if she wants to know more about family planning. It is just as easy for a woman to become pregnant after an MVA as at any other time. Also, the woman may have had the MVA because she had a pregnancy that she did not want. See Chapter 17 to help her find a family planning method that works for her.

CHAPTER 24
Getting medical help

In this chapter:

What medical centers and hospitals can provide 433

Lab tests 434
Sonograms, Dopplers, and x-rays . . . 434
Medicines. 434
Tools for labor and birth emergencies 435
Transfusion (giving blood through an IV) 436
Tools for helping sick babies 437

Getting to a medical center 438

Decide quickly to get help 438

Working with medical centers and doctors 438

At the medical center 440

Getting medical help

CHAPTER 24

Even the most skilled and experienced midwives need help sometimes. For example, severe hemorrhage, eclampsia, or a prolapsed cord cannot be treated at home. These types of health problems can be solved only by using tools and skills available in a medical center or hospital.

This book suggests times you should get medical advice, get medical help, or go to a medical center or hospital. Sometimes you will have to decide for yourself that you need help. For example, there are probably procedures explained in this book that you have not been trained to do. You should get help from someone with experience, instead of trying to learn to do these procedures just from reading about them.

What medical centers and hospitals can provide

Hospitals and medical centers have life-saving tools, equipment, people with advanced training in medical skills, and medicines that you may not be able to get at home. Most hospital procedures are very useful when they are necessary. And sometimes these procedures and tools are the only way to save women's lives.

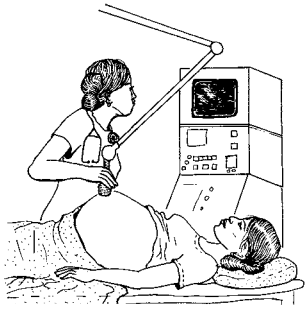
In this chapter, we list some of the types of help you may be able to get at a medical center or hospital. We give ideas for when to get help and how to work with hospital staff and other health workers.

Remember: For most labors, advanced medical tools and procedures are not needed. In many hospitals, these tools are used much more than they should be. For example, pregnant women do not usually need to have a sonogram (a picture of the baby inside the womb). But at many hospitals, every pregnant woman is given one. Hospitals and doctors may do procedures that are not just unnecessary but also dangerous. For example, doctors may do an episiotomy (cut the vaginal opening) at every birth. This is not needed and can cause infection and other problems after the birth.

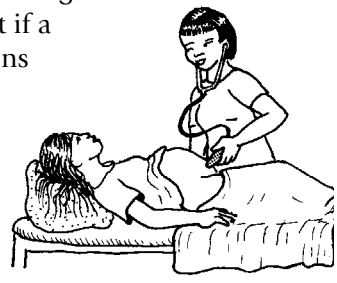
Lab tests

Laboratories have tools, such as microscopes, and people who are trained to test blood, urine, stool, and tissue for sicknesses and other health conditions. Sometimes a lab test is the only sure way to know what is causing a problem. For example, lab tests can show you if a woman has anemia, a bladder infection, or HIV.

Sonograms, Dopplers, and x-rays



Some medical centers have a machine that can take a picture of a baby inside the womb. This is called a sonogram or ultrasound. You might want a sonogram to find out if a woman is pregnant with twins or if her baby is breech.

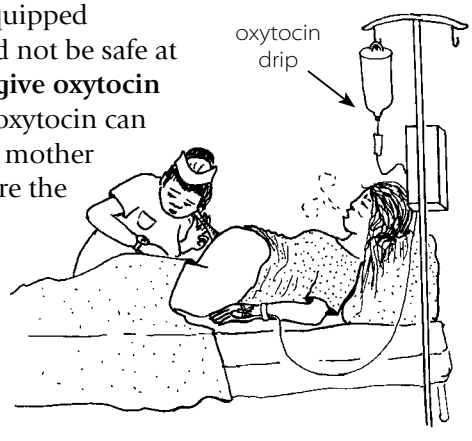


An ultrasound fetoscope (Doppler) makes the baby's heart easier to hear but does not take a picture.

Another machine uses x-rays to take pictures of a person's bones inside of her body. This can show you if a bone is broken. X-rays cause damage to cells inside the body. A few x-rays will probably not cause problems, but being x-rayed many times can lead to cancer. **Pregnant women should never be x-rayed unless it is absolutely necessary.** If a pregnant woman needs an x-ray, her belly must be covered by a lead apron to protect the baby.

Medicines

A careful and well-trained doctor in a well-equipped medical center can give medicines that would not be safe at home. For example, midwives should **never give oxytocin at home to start or strengthen a labor**. But oxytocin can be given safely in a medical center where the mother and baby can be monitored closely, and where the baby can be born quickly by surgery if something goes wrong. If a woman has been in labor for too long (see page 186), oxytocin given at a medical center may help her deliver the baby.



With careful monitoring and access to surgery, oxytocin can be safely given in an IV.

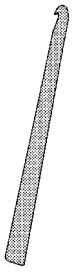
At a medical center or hospital, you may also be able to get medicines for a sick baby. Medicines are often too dangerous or difficult to give to a baby at home.

Tools for labor and birth emergencies

We explain some procedures here that may be used in a medical center to hasten labor or get the baby out quickly. These procedures save the lives of babies who are in distress, and of mothers who have been laboring for many, many hours, or who are at risk of infection.

Breaking the bag of waters

When a woman has been in labor for many hours but she is not making progress, some doctors (and midwives) use a sterile tool to break the bag of waters. This will often bring the baby's head down hard on the cervix and speed labor.

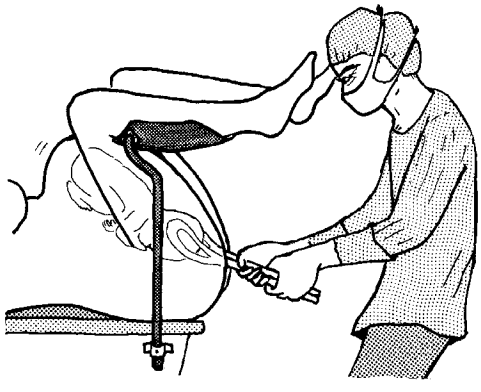


amniohook — a tool for breaking the bag of waters

Breaking the bag of waters increases the chance of infection and can stall a labor if the head comes down fast in the wrong position.

Instrument birth

A baby who is stuck in the vagina can often be pulled out using forceps or a vacuum extractor.



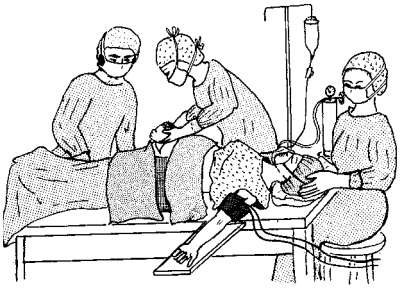
Forceps are used to grab a baby's head and pull him out of his mother's body.

A vacuum extractor attaches to the baby's head and uses suction to pull the baby out of the vagina.

Forceps and vacuum extractors are rarely necessary and are much too dangerous to use at home. But if a baby is at risk of dying (and in some other emergencies), these tools are the best and fastest way to help a baby be born.

Note: Instruments should be avoided with a woman who has HIV. Using them increases the risk of HIV infection for the baby.

Cesarean surgery (cesarean section)



cesarean surgery

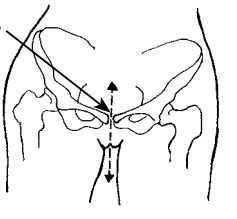
Rarely, to save the life of a baby or mother, a baby must be born by surgery. For example, if the baby is in an impossible birth position, surgery is the only way to get the baby out. Surgery is also necessary when a baby and mother are in immediate danger, like when there is a detached placenta or a prolapsed cord.

Surgery is sometimes used to deliver the baby of a mother with HIV. Being born by surgery makes it less likely the baby will be infected with HIV during birth.

However, cesarean surgery can cause serious problems. For example, the woman may have an allergic reaction to anesthetic. The cut in her belly may not heal easily or may get infected. The woman may have trouble breastfeeding or caring for her baby because recovering from surgery is more difficult. A woman who has a cesarean birth needs extra rest, care, and help.

Note: **Cesarean surgery is used too often!** Some doctors prefer cesarean surgery because they can choose the time of birth themselves, or because they charge more money for it. In some places, most women have babies by surgery. But **cesarean surgery should only be used if it is needed for the health of the mother or baby**.

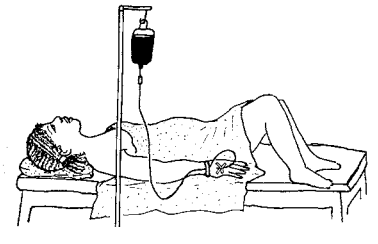
Symphysiotomy



Symphysiotomy is a cut in the middle of the mother's pubic bone. It is used to open a pelvis that is very small so a baby can be born vaginally. It is easier to do than a cesarean, but it is only done in a few places in the world because it does not always work. It can also cause problems, including a cut in the bladder or lifetime disability.

Transfusion (giving blood through an IV)

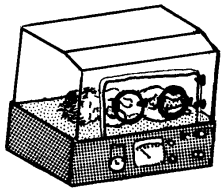
A woman who bleeds heavily after a birth or from other problems (like an unsafe abortion) may need to be given blood through an IV. In some places you must bring a family member who may be able to give blood for her.



When a woman has lost a lot of blood, a transfusion may save her life.

Transfusions should only be used in emergencies, because blood may carry infections like hepatitis and HIV. If a woman gets blood from someone with an infection, she is likely to get that infection too. In most places, blood is tested for serious illnesses, but there is always a small chance of getting sick from a transfusion.

Tools for helping sick babies



incubator

In places where there are few medical services, many babies who are born sick cannot get help. But a well-equipped hospital will have some resources for helping sick, small, or early babies.

An **incubator** is a box to keep a small or sick baby warm. Like many medical tools, it can be used too often. Most babies are best kept warm in their mother's arms, next to their mother's skin.

respirator

An **oxygen tent** or oxygen hood gives the baby extra oxygen. This can help a baby who is having trouble breathing.

A **respirator** helps a very sick baby breathe.

feeding tube

A **feeding tube** runs down a baby's nose and into her stomach. This is used when a baby is too weak to breastfeed. The hospital may give the baby formula through the tube, but usually breast milk removed by hand is better (see page 285).

heart monitor

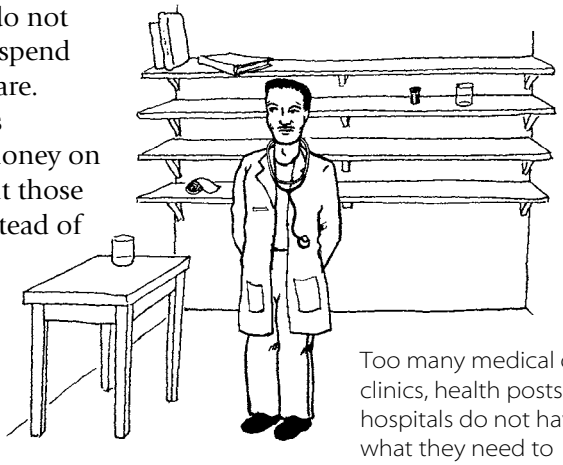
Heart monitors and other measuring devices stick to the baby's body to measure heart rate and other health signs.

Medical centers need community support

Every community should have a medical center with adequate supplies. At the least, a medical center should have skilled health workers and some basic tools for saving lives, including oxygen, certain medicines, and sterile equipment for doing basic surgeries. But sadly, most hospitals and health clinics do not have all the supplies they need.

Some communities do not have enough money to spend on hospitals or health care. And many communities choose to spend their money on making war or to benefit those who are already rich instead of meeting the basic health needs of the people.

Is there anything that midwives can do to change this?



Too many medical centers, clinics, health posts, and hospitals do not have what they need to provide basic health care.

Getting to a medical center

A woman with a serious health problem, or at risk for one, needs medical help right away. When a woman is in danger, her family or her midwife may believe there is no hope. This is not true. **Getting medical help fast can save a woman's life.**

For village women, the closest medical center might be days away. Some women take buses or walk for miles to get medical help. Even women who live close to a hospital may not get there because of lack of money or transportation. Together with each family and with the whole community, plan how you can bring a woman to medical help **before** there is an emergency. See page 106 for ideas about making a transport plan.

Decide quickly to get help

If you see a risk sign at any time, do not wait. If you can treat the problem at home, do so quickly. If you cannot treat it yourself, or if you have been trying to treat a problem that is not getting better — it is time to get medical help!

The more quickly you get help, the better able the health workers at the medical center or hospital will be to help the woman and her baby.

Working with medical centers and doctors

Midwives, nurses, doctors, and other health workers must all work together for the health of women and families.

Midwives need medical centers and doctors. When a woman is having a medical emergency, a wise midwife knows that a medical center is probably the best place for her to be.

That woman certainly bled a lot after the birth. It is good that you brought her to the hospital.
I'm so glad you are here to help. I was afraid she was going to die!

Sadly, many doctors do not realize how much they need midwives. Doctors are trained to look for emergencies, and many treat every birth as an emergency. But midwives are experts on normal, healthy birth. They often have more of the patience and trust that a woman in labor needs to give birth. Many midwives know how to use plant medicines, how to use massage, how to turn a baby safely, or have other knowledge that is not taught in medical schools.

Doctors may not appreciate a midwife's special skills. Traditional midwives in particular may be looked down on and considered uneducated or not competent. It can be very difficult for a midwife to work with a medical center for the good of pregnant women.

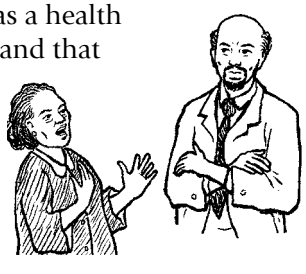
Because of these challenges, it is important to build a relationship with medical centers and doctors **before** an emergency happens. This way, when you need help, you are more likely to be treated with respect. Try talking to just one doctor who seems to understand how important midwives are. Talk about the ways you would like to work with the hospital. If possible, a meeting between a group of midwives and a group of doctors can help everyone work together.

When midwives and hospitals work together, everyone benefits. If midwives refer women at risk more quickly, doctors can do more to prevent problems. And a midwife who is treated with respect will more readily bring a woman to the hospital. Here is a true story:

A midwife who would not give up

Neusa, a tiny farmwoman, is a health worker in Brazil. Laura, one of Neusa's patients, had been pregnant 3 times before but had lost each baby because of high blood pressure followed by convulsions during the last month of her pregnancy. Laura was a sad woman, quiet and resigned to her fate of never having children. Neusa talked with Laura about her health, and gave her vitamins and encouragement about her pregnancy, care she had never received before. Laura looked forward to Neusa's visits. One day in her 8th month, Laura woke up with a terrible headache and swollen legs. Laura had no mirror in her hut to see her face, but when Neusa arrived, she was shocked to see how swollen Laura's face was. Neusa knew that without help, Laura would once more lose her baby and possibly her own life!

Since it was the week before Christmas, the hospital had only a few doctors and nurses working. They did not want to take more patients, so they gave Laura an injection and told her to go home and wait until her baby was ready to be born. Neusa would not accept this and went to the hospital director's office to explain Laura's situation and past problems. But even after seeing her badge and hearing that she was a health worker, he told her there was "no room at the inn" and that Neusa must take Laura home and wait.



But Neusa would not give up. She knew that Laura's condition was too dangerous to return home. Instead, she took Laura to the police station. There Neusa made a ruckus. She may be a tiny woman, but she has a voice and a gleam in her eye that is unforgettable. When she is "in battle," she is not easily ignored!

Finally, a police car took Neusa and Laura to a hospital an hour away from Neusa's village. By the time they arrived, Laura's blood pressure was very high, so the doctors did a cesarean and Laura gave birth to a healthy baby boy. Neusa's health knowledge, determination, and love for her work saved this baby's life — and perhaps his mother's too!

In a health system that works well, midwives and doctors work together.

- When a midwife brings a woman to a medical center in an emergency, she should be able to stay with the woman throughout the birth. This will make the woman more willing to get medical help in an emergency, because she will feel more safe and calm. It also will allow the midwife to learn by watching how the medical center treats emergencies.
- Midwives, doctors, and other health workers should talk to each other about the common health problems in the community, and about how each of them can work to solve those problems.
- Midwives should be able to ask doctors medical questions, and doctors should freely answer them. Doctors and medical centers can provide training and equipment to midwives.

If a woman is bleeding, you should send her here to the hospital.
In an emergency, there isn't always enough time. We need oxytocin to stop the bleeding after a birth.
If we train midwives to use oxytocin safely — I think this is a good idea.
And maybe we can work together to prevent the anemia so many women have.

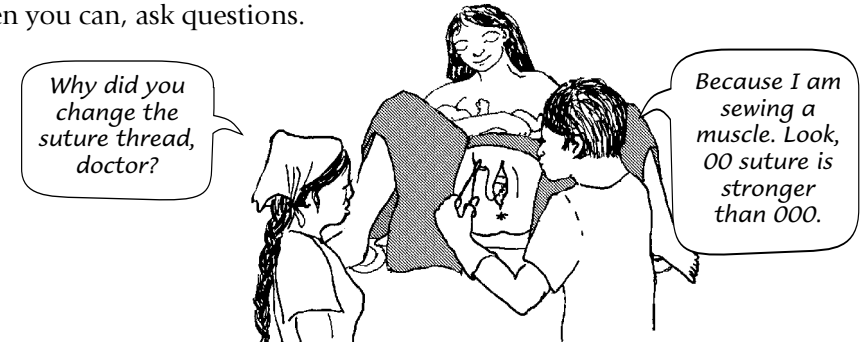
At the medical center

Medical centers and hospitals have their own rules and procedures. These will feel unfamiliar until you have experience with them.

If you are able to come to the medical center with a woman who is having a health problem, you can **learn** about these procedures and skills and **explain** them to the woman and her family. Perhaps you can even help **change** procedures that are not necessary.

Learn from medical centers

Watch everything that is done at the medical center. When you can, ask questions.



Explain what is happening

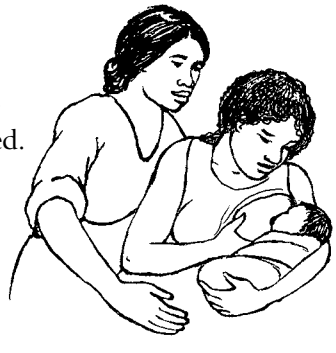
Let the woman and her family know why each procedure is happening. Make sure the woman understands and agrees to the treatment.

Work to change unnecessary, disrespectful, or harmful practices

Some hospital practices are not necessary. They may cause a woman discomfort for no good reason. For example, there is no need to shave a woman's pubic hair before a normal birth. This is an unnecessary but common hospital practice. Anther common medical practice that can cause problems is episiotomy (cutting the vaginal opening) before every birth to be sure there will be enough room. This is not necessary. It can cause deeper tears into the rectum and may not heal as well as a small tear.

If you have a good relationship with a medical center, you may be able to suggest a few changes. You will probably have the most success if you suggest only one change at a time. Here are a few things that you might focus on:

- Procedures should be clearly explained to anyone who is receiving care.
- Women should be able to eat and drink during labor.
- Women should be allowed (and encouraged!) to sit, stand, or walk during labor.
- Women should be allowed to give birth sitting, squatting, or standing.
- Unnecessary procedures and surgery (like routine episiotomy or cesarean surgery) should be avoided.
- Women should be allowed to hold their new babies right after the birth. They should be encouraged to breastfeed right away.
- Babies should be kept by their mothers, not in a nursery unless there is an emergency.



CHAPTER 25
Homemade tools and teaching materials

In this chapter:

Low-cost equipment **443**

Homemade timers 443
Homemade stethoscopes 445
Homemade scales 445

Teaching materials **447**

3 basic methods for making teaching materials 447
Models of a pelvis, womb, and vagina 448
A model of pregnancy: the womb, placenta, cord, and baby 454
A model of birth: the birth box and birth pants 461

Homemade tools and teaching materials

CHAPTER 25

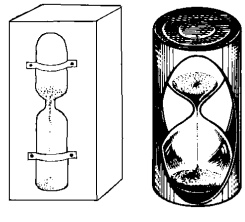
Low-cost equipment

This section describes a few tools you can make to help with your work as a midwife.

Homemade timers

If you do not have a watch or clock, you can make a simple timer to measure the number of heartbeats or breaths in a minute. None of these timers are as accurate as a clock, but they work fairly well. (When you first make the timer, you will need to use a clock to measure the length of a minute.)

Sand timers



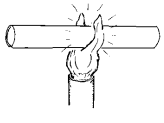
A sand timer consists of a tube of glass closed at both ends, with a narrow neck in the middle. It is partly filled with fine sand. The sand runs from the upper to the lower half in an exact period of time.

Egg timers, or 3-minute sand timers, can be purchased at low cost in some areas. To use one, count the number of heartbeats or breaths for 3 minutes, and then divide by 3 to know the number of heartbeats or breaths a minute. You can also use this timer to tell when contractions are 3 minutes apart.

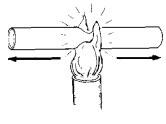
1-minute sand timer

To make a 1-minute sand timer, follow these steps:

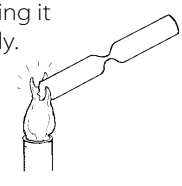
1. Heat the middle of a glass tube over a Bunsen burner or other small, very hot flame.



2. Stretch the tube to make a thin neck in the middle.

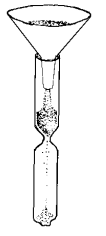


3. Seal one end of the tube by melting it slowly.

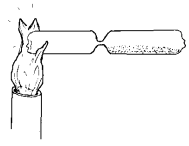


4. Wash some fine sand to remove the dirt. Dry it in the sun, and sift it through a very fine strainer. Then heat the sand to remove moisture.

5. Put just enough sand in the tube so that it takes exactly 1 minute for all of it to run from one part to the other. Use someone's watch with a second hand to check this.



6. Seal the other end of the tube.



An easier method is to use a "soft glass" test tube, or a blood collection tube. Make a thin neck in the middle of the tube using a hot flame. You do not need to melt the open end — simply seal it with a cork or rubber stopper. This timer may be less accurate in a moist climate.

Do not be surprised if you have to make a sand timer several times before you get it right. If the sand sticks, find a smoother, finer sand, and be sure it is absolutely dry. Be sure you have the right amount of sand before you seal the tube. Protect the timer by keeping it in a box padded with cotton or cloth. It can break very easily at the neck.

Water timers

Water timers are easy to make but less accurate than sand timers.

Use a glass or plastic tube. The longer and thinner the tube, the more accurate it will be as a timer.

To form a narrow hole in a glass tube, hold it over a hot flame, then stretch, cool, and break it.

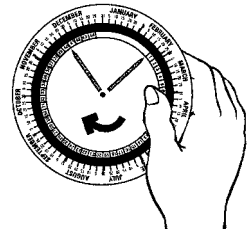
Hold the tube upright and fill it with water exactly to the top.

Using a watch with a second hand, measure how far the water level drops in exactly one minute. Check this a few times, and then mark the spot with ink, nail polish, or a piece of tape.

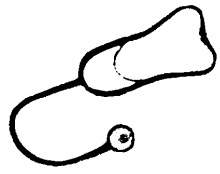
Note: Sometimes a water or sand timer will get partly clogged and give a false reading. So it is a good idea to check your timer against a clock or watch from time to time.

Homemade due date calculator

See page 527 for a tool you can make that shows a woman's likely due date if you know the date of her last monthly bleeding.



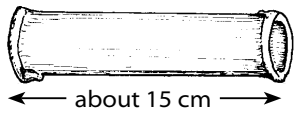
Homemade stethoscopes

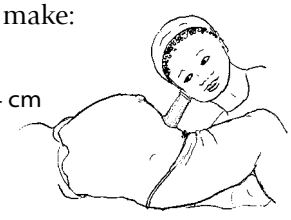


A stethoscope is a hollow tube that makes it easier to listen for sounds inside a person's chest or belly. It is a good tool for listening to the baby's heartbeat inside the womb.

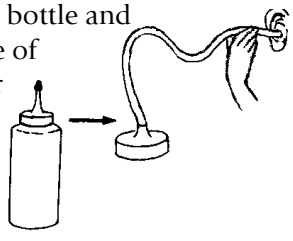
The best stethoscopes are made of metal and plastic, and can be expensive. But there are several homemade stethoscopes you can make:

- Use a hollow tube of bamboo, wood, or clay.

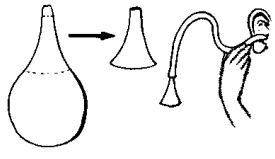




- Use the top of a narrow-necked plastic bottle and a piece of rubber tube.



- Cut off the top of a rubber suction bulb, and use it with a piece of rubber tube.



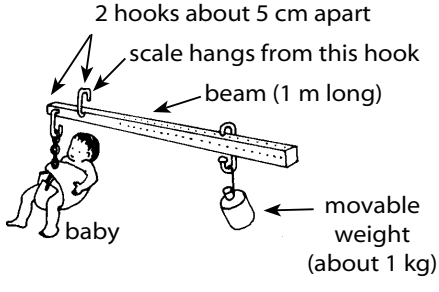
Homemade scales

A store-bought scale is more accurate and easier to use than these scales, but these are cheap and easy to make.

4 kinds of scales

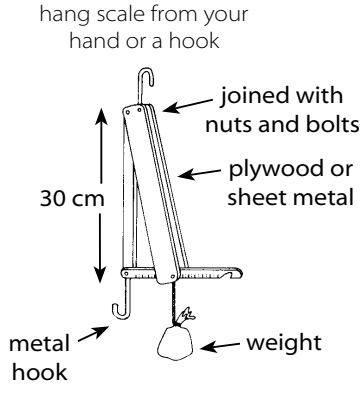
Beam scale

This is the easiest kind to make and probably the most accurate. The beam can be made of dry wood or bamboo. The movable weight can be a bag, bottle, or tin can filled with sand.



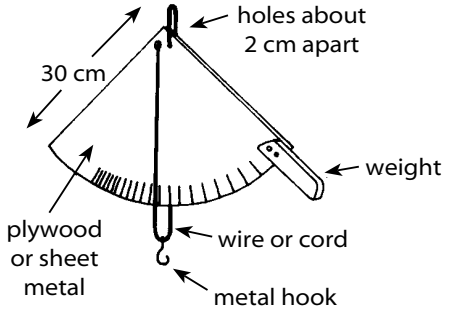
Folding scale

This scale is easy to carry from place to place. It works best if made of metal or plywood strips.



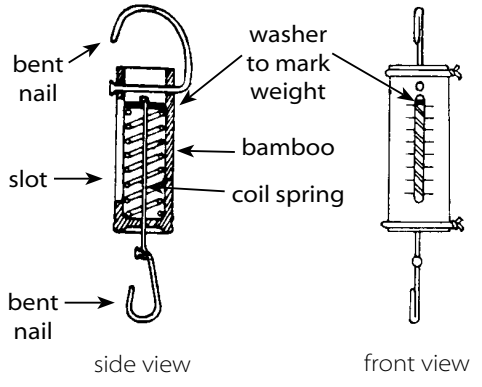
Quarter-circle scale

If this scale is made with plywood, use sheet metal to reinforce the upper corner. The weight should be between 1 and 2 kilograms. It can be made from scrap metal or a piece of heavy pipe.

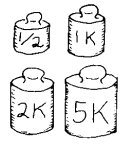


Spring scale

This scale is made with a coil spring inside a bamboo tube. The spring should be about 30 centimeters long and squeeze to half its length with a weight of 15 kilograms.



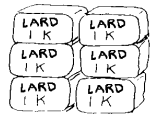
How to make the scales accurate



To mark the scale accurately, you will need some standard weights. Perhaps you can:

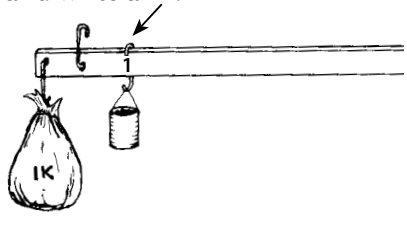
- borrow some weights from a merchant at the market.
- use a merchant's scales to make your own weights by filling bags with sand.

- use 1-kilogram packages or cans of food.



To mark your scale

1. Hang a 1-kilogram weight on it.
2. Balance the movable weight.
3. Mark the spot with a small line and write a "1."
4. Now add 1 more kilogram at a time, rebalancing the weight and making a mark each time, until you have 6 or 7 marks on the scale.

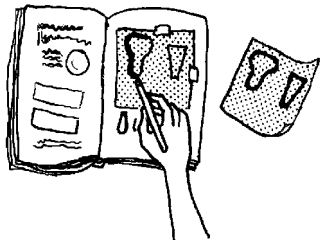


Teaching materials

This section tells how to make some materials for teaching about women's bodies, pregnancy, and birth. These materials can be used when teaching other midwives, pregnant women and their families, or people in the community who want to learn about women's reproductive health. Most people learn more easily using these types of teaching materials than they would learning only from a book.

3 basic methods for making teaching materials

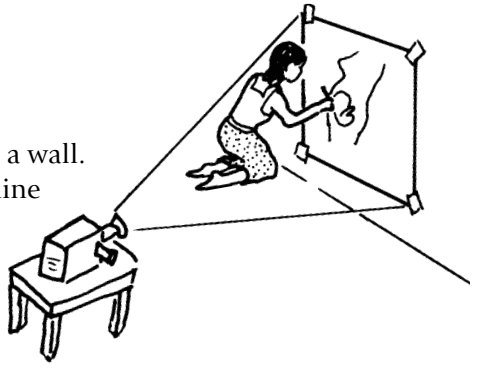
Copying a pattern



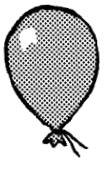
Some of these teaching materials include patterns for making models. To copy a pattern, put a thin sheet of paper over it. If possible, tape it down lightly so it does not move around. Then trace the pattern onto the thin paper. Remove the thin paper and pin or tape it on the cloth or cardboard you are going to cut out.

Making a slide into a poster

Put a large piece of paper or a large cloth on a wall. Then put a slide into a slide projector and shine the picture onto the piece of paper or cloth. Trace the picture exactly. Once you have the outline, color it in.

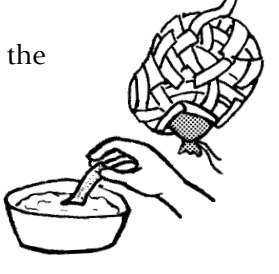


Making models out of papier maché



Papier maché is a good material for making models of parts of the body. For example, if you want to make a model of a baby's head, use a balloon or some dry, crumpled newspaper in a plastic bag.

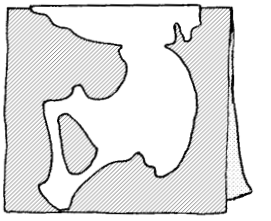
Then make a paste of flour and water. Dip strips of newspaper or other paper in it, and layer the strips over the balloon. Make several layers and let it dry. It dries well in the sun. Paint the outside so it looks like a baby's head.



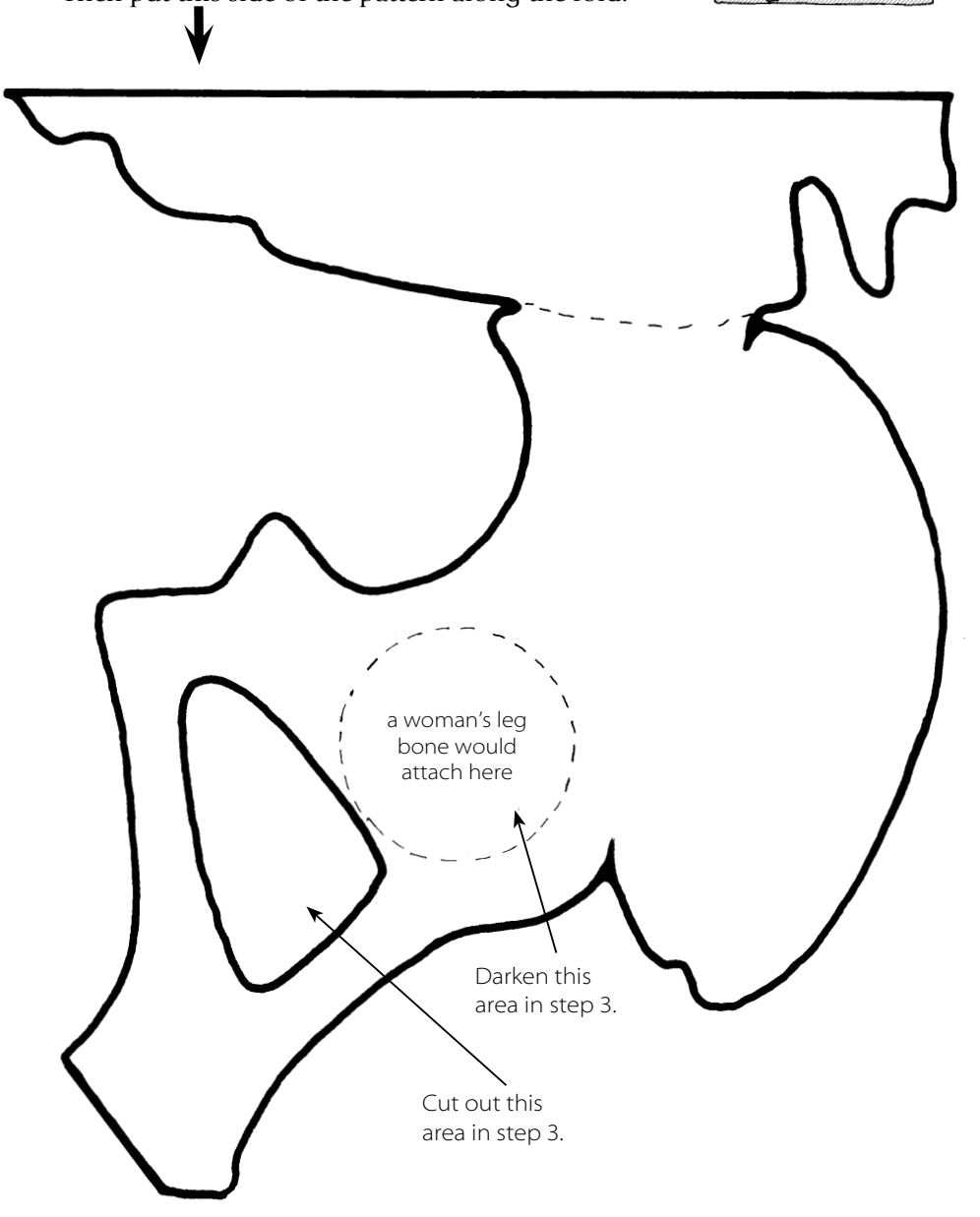
Models of a pelvis, womb, and vagina

A paper pelvis

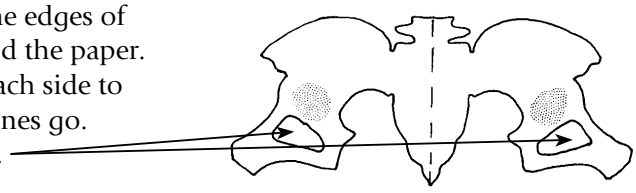
You can make a simple model of the pelvis using a piece of stiff paper or thin cardboard.



1. First, make a pattern by tracing the shape below on thin paper.
2. Fold the piece of stiff paper in half.
   Then put this side of the pattern along the fold.

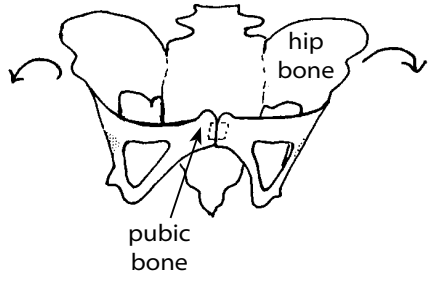


3. Cut the paper along the edges of the pattern, then unfold the paper. Draw a dark spot on each side to show where the leg bones go. Cut out the holes here.

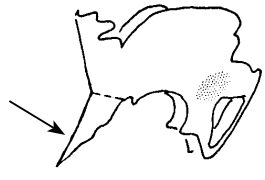


back view

4. Bend the paper around and join the ends together to make a pubic bone in front. Be sure to keep the dark spots on the outside. To keep the front of the pelvis round, put a thin strip of cardboard across the inside of the pubic bone. Gently curl the hip bones (at the top on each side) back.

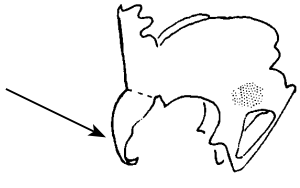


5. Bend the tailbone back.

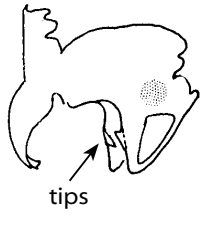


side view

6. Then curl it forward.



7. Fold the little tips so that they point inward.

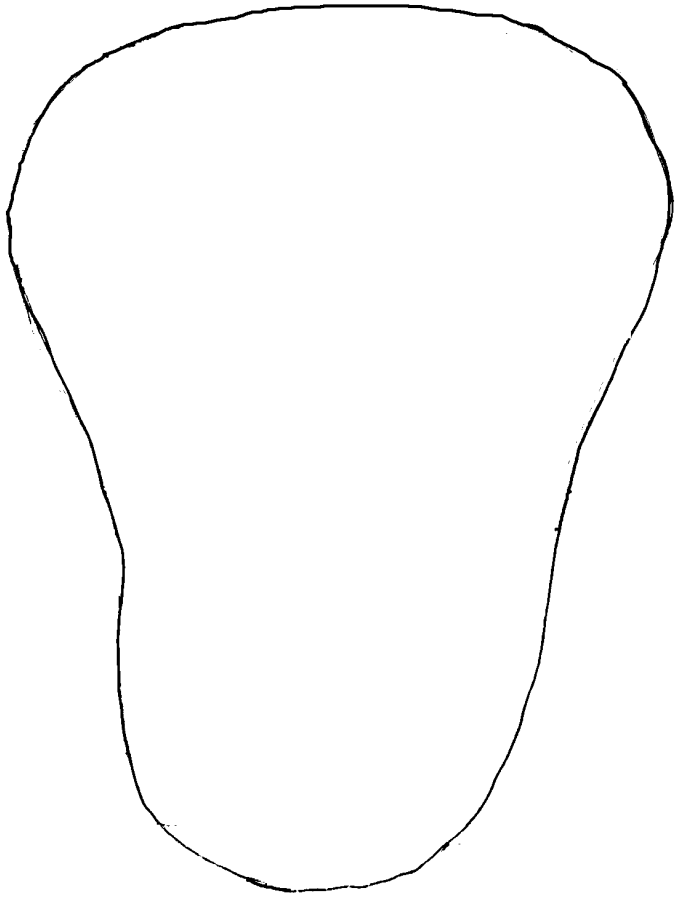


You can use this pelvis with a doll (see page 459) to show how a baby passes through a woman's pelvis to be born.

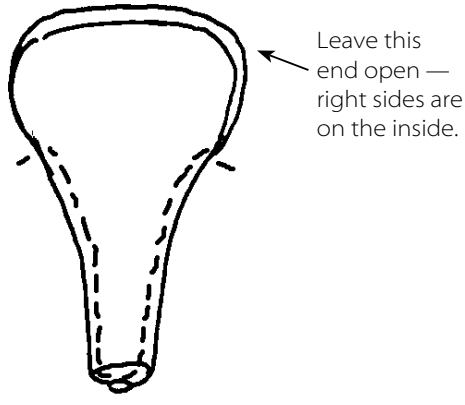
A womb and vagina made from cloth

The womb

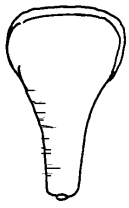
1. To make a non-pregnant womb, cut 2 pieces of cloth this size. Stretchy material is best. (If you do not have stretchy material, cut the material a little larger than this picture.)



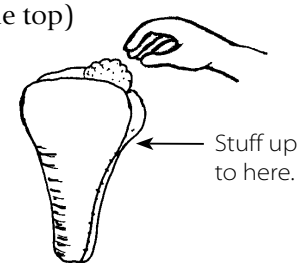
2. Put the womb pieces together and sew along the dotted line. Leave the top end open.



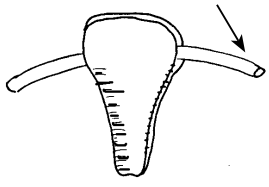
3. Turn the womb inside out.



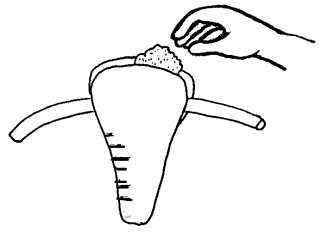
4. Stuff the inside of the womb (almost to the top) with soft material.



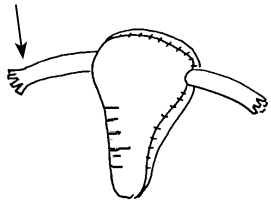
5. Put a plastic straw or tube of cloth out each side of the top of the womb, like this:



6. Stuff more soft material in the top.

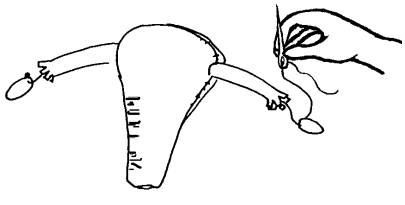


7. Sew the top closed, and make a fringe on the ends of the tubes, like this:



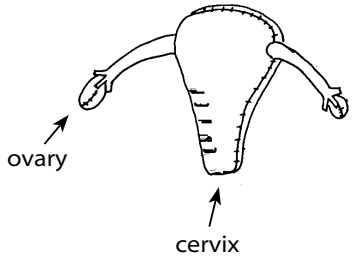
8. Make 2 small cloth balls this shape to show the ovaries, where the mother's eggs are made. Stuff them with soft material.

9. If you are using a plastic straw to show the tubes, sew a strong string to one ovary.



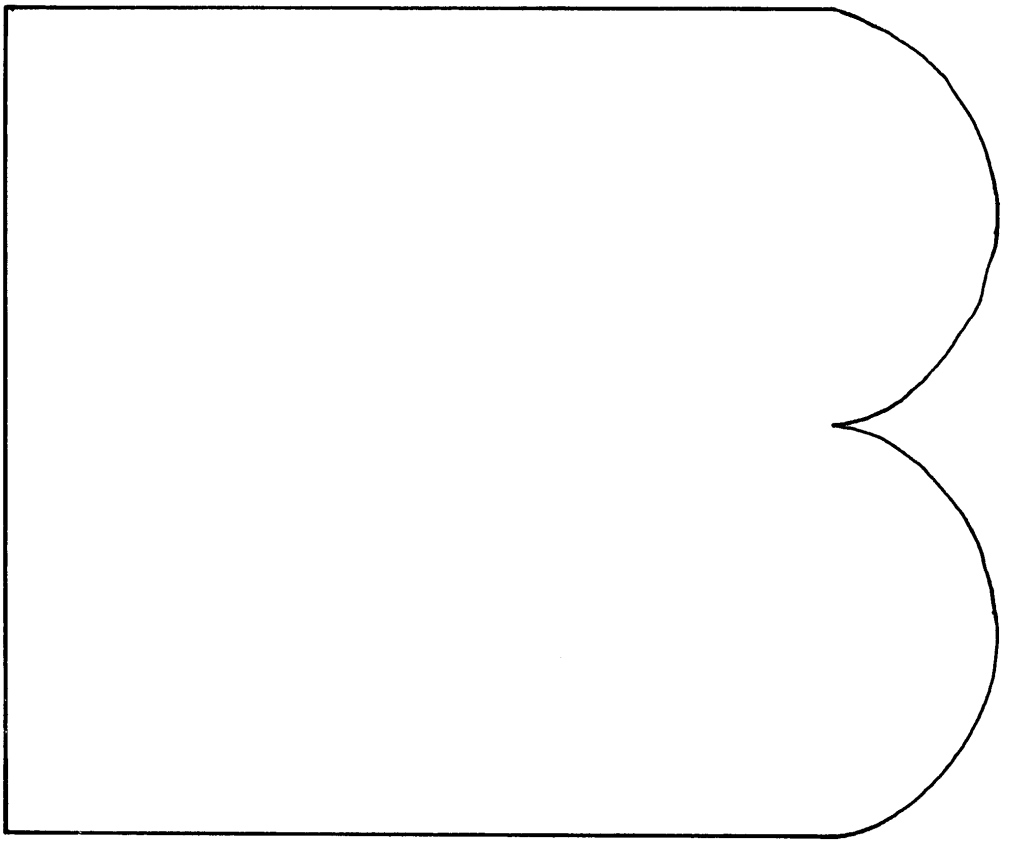
Put the string through the straw and attach it to the other ovary. If you are using cloth tubes, sew one ovary to each end.

10. The finished womb should look like this:

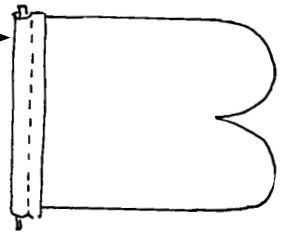


The vagina

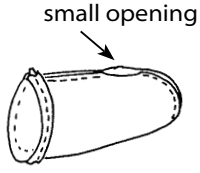
1. Cut a piece of material this size and shape:



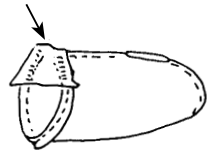
2. Sew a little soft wire or plastic along the flat edge of the material.



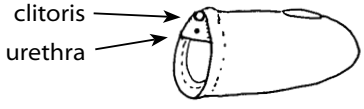
3. Fold the material together to make a tube. Sew, leaving a small opening just big enough to fit the cervix of the womb into.



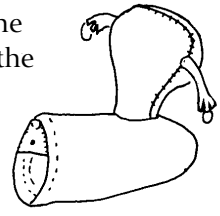
4. Sew a piece of cloth here.



5. Turn the tube so the right sides face out. Make a knot here to show the clitoris. Make a dot or a hole to show the urethra (opening that urine comes out of).



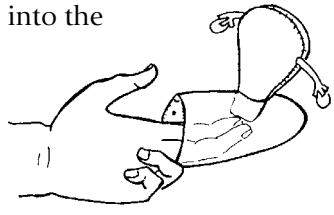
6. Attach the womb to the vagina by putting the bottom of the womb into the opening in the vagina.



Using the model

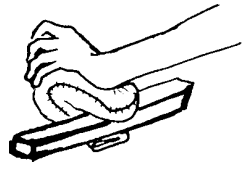
Here are a few ways you can use this model in teaching:

1. Students can put their fingers into the vagina and feel the cervix.



2. You can hold the womb in front of your belly so people understand where the womb is in the body.

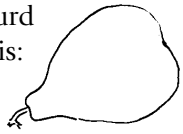
3. You can show how to stop a hemorrhage after birth. Fold the womb over a board or stick to show how to press the womb against the pubic bone.



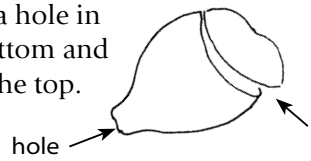
A model of pregnancy: the womb, placenta, cord, and baby

A womb made from a gourd

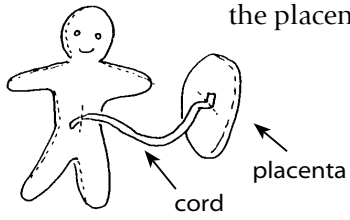
1. Look for a gourd shaped like this:



2. Make a hole in the bottom and open the top.



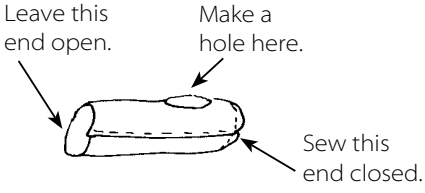
3. Make a simple doll from cloth. Make the doll small enough to fit inside the gourd. Use a small piece of rope or string for the cord, and a small pillow for the placenta.



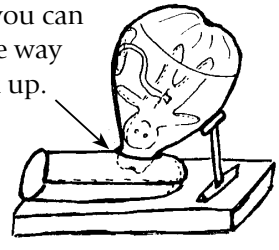
(For another way to make a doll, see page 459.)

4. Put the doll inside the gourd. You can glue the placenta to the inside wall of the gourd.

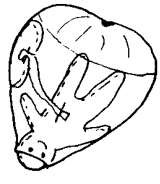
5. Make a vagina out of a tube of leather, cardboard, rubber, or some other material. Make a hole in the top. Leave one end open and sew the other end closed.



6. Put the bottom of the womb into the hole in the top of the vagina. Perhaps you can find some way to prop it up.

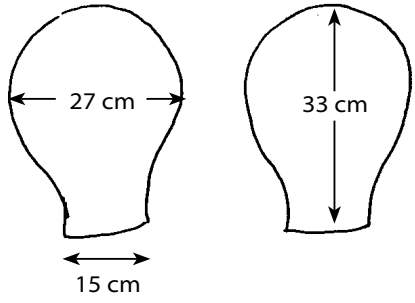


7. If you want to show an open cervix, make another gourd womb with an open bottom, like this:

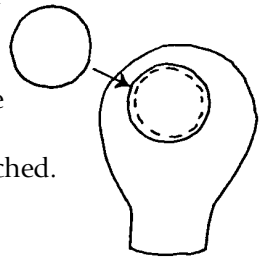


A womb made from cloth

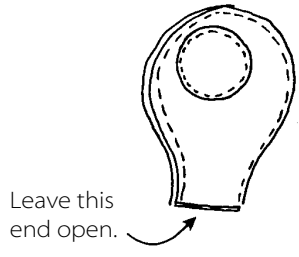
1. Cut 2 pieces of material this shape. The material should be about 33 centimeters (13 inches) long. It should be about 27 centimeters (10½ inches) wide at the top and about 15 centimeters (6 inches) wide at the bottom. Stretchy material is best.



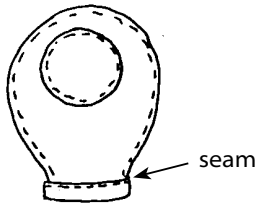
2. Cut a circle of red cloth the same size as the placenta (see page 456). Sew it to one of the womb pieces. This circle shows the spot where the placenta is attached.



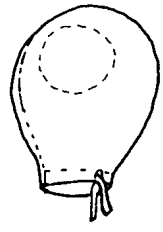
3. Put the sides of the womb together and sew like this:



4. Turn up the open end and sew a seam. Leave enough space for a drawstring to fit inside. This will be the cervix.

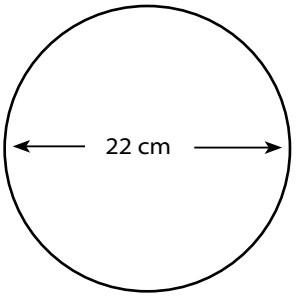


5. Turn the womb right side out. Put a drawstring or a piece of elastic through the seam at the bottom.

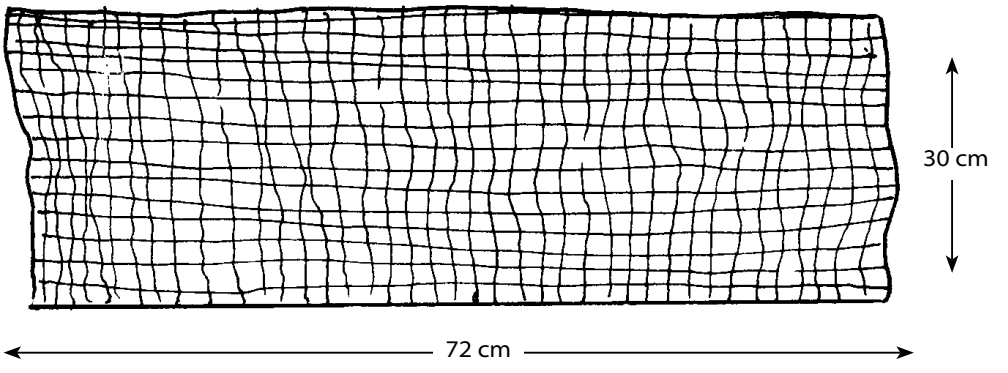


The placenta

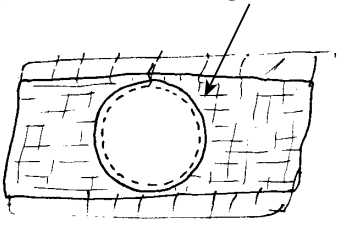
1. To make the placenta, cut 2 pieces of cloth in a big circle. The circles should be at least 22 centimeters (8½ inches) across. They do not have to be exactly round.



2. To make the membranes (the bag of waters), use thin material you can see through. Cut the material about 30 centimeters (12 inches) wide and about 72 centimeters (28 inches) long.

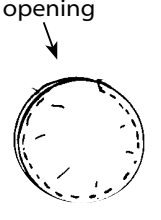


3. Lay one of the circles face down on the middle of the thin cloth. Sew the circle down, leaving a space around the edge.

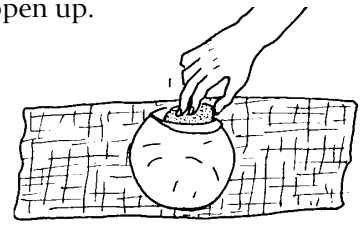


4. Turn the thin cloth over. Fold the thin cloth carefully away from the edge of the circle and pin it down so it is entirely contained in the circle. Leave the edge of the circle sticking out.

5. Put the other circle face down over the first circle and folded thin cloth. Sew almost all the way around, leaving a small opening.

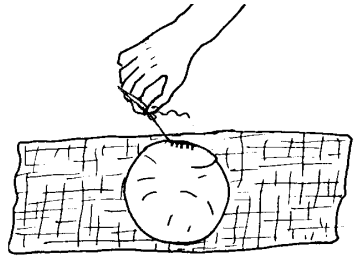


6. Turn the circles inside out. Take out the pin, and the membranes will open up.



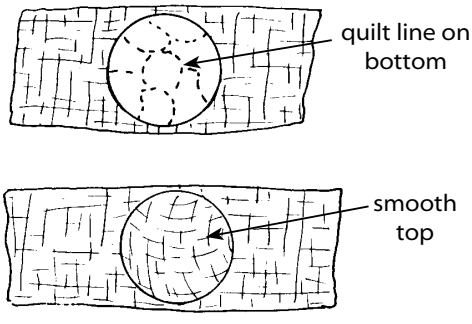
Stuff the placenta with some soft material like foam rubber, old rags, or dried grass.

7. Sew the opening closed.

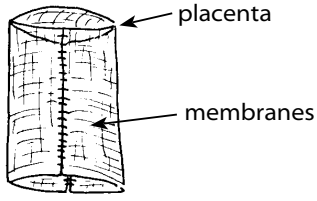


8. Turn the placenta to the side that has no thin cloth over it. This is the bottom of the placenta — the side that is attached to the womb wall.

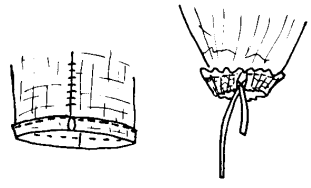
If you like, quilt the bottom to show the segments in the placenta. Do not let the quilting go through to the top side of the placenta. The top should be smooth.



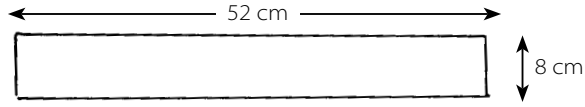
9. Let the thin material hang down, and sew the sides together to make a tube.



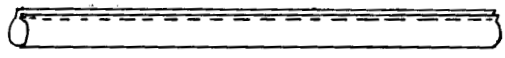
10. Turn up the bottom of the tube and sew it, leaving a space that a drawstring can fit through. Thread a drawstring through the bottom of the tube.



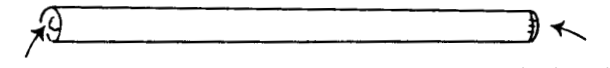
The cord



1. Cut a long piece of cloth about 52 centimeters (20 inches) long and 8 centimeters (3 inches) wide.

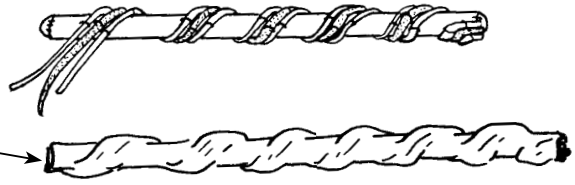


2. Fold the material together, lengthwise, and sew along the edge.

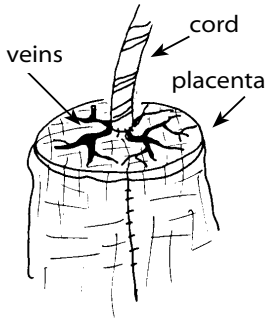


3. Turn the material inside out. Stuff it with something soft, just as you stuffed the placenta.

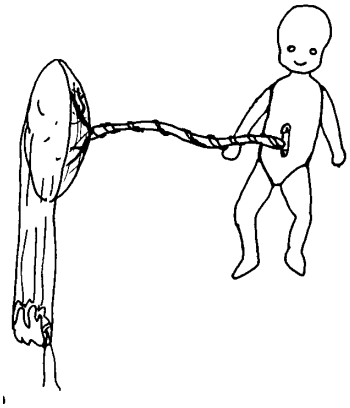
4. To show the arteries and vein in the cord, wind 3 thick strings or pieces of yarn around the cord and sew them down so they do not get tangled. Two of the strings should be the same color. If possible, cover the cord with a piece of thin material like you used for the membranes, so it looks like this:

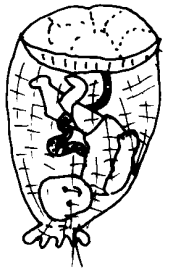


5. Sew one end of the cord onto the top side of the placenta (the side covered with thin material). Draw veins on this side of the placenta with a felt tip or ink pen.

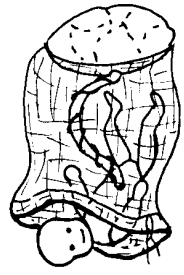


6. Attach the other end of the cord to a doll (see page 459). You can sew the cord to the doll or fasten it with a safety pin.





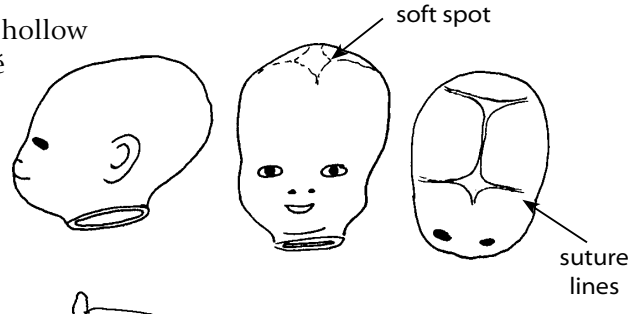
To show the baby inside the bag of waters, put the doll into the bag and close the drawstring. To show the bag breaking, open the drawstring.



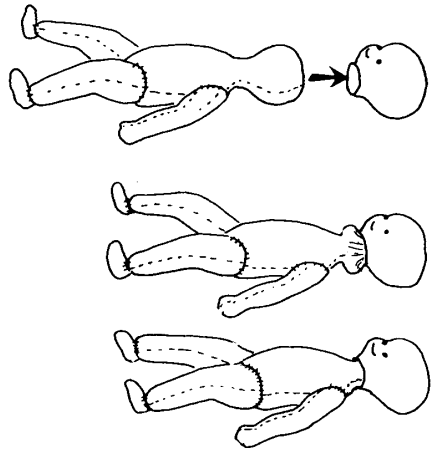
The baby

Although any doll can be used as a baby, the best kind of doll has a hard head and a soft body. If you are making a doll, follow these instructions:

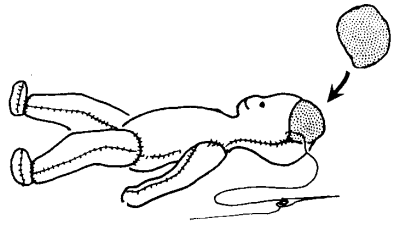
1. Make a hard head with a hollow center from papier maché (see page 447). Paint a face on the head, and then paint on the soft spots or suture lines (see page 259).



2. Sew a life-size body for the doll, with a round head a little smaller than the hard head you just made. Stuff the cloth with foam rubber, rags, or dried grass, so that it looks like a baby's body. Then stuff the cloth head into the hollow center of the hard head.



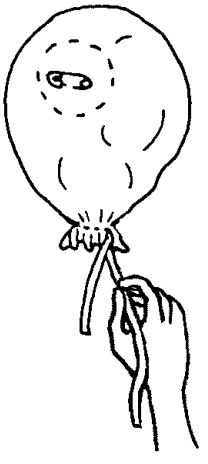
If papier maché is not easy to use, you can try this way of making a hard head. Stuff the body and face with soft material, then stuff the top of the head with one of these: a gourd; a hard ball; a smooth, round piece of wood; or a round stone.



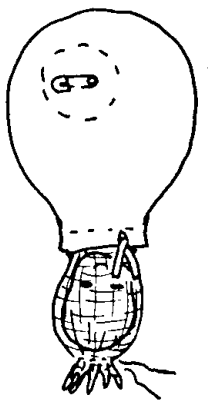
Using models to teach

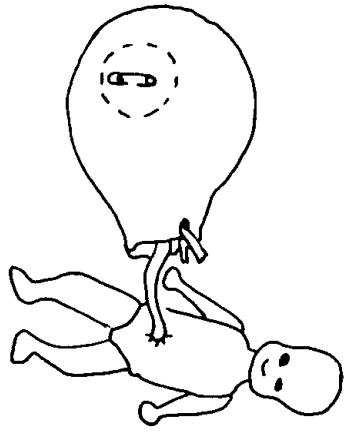
To show how the baby, placenta, and membranes fit inside the womb, put the baby inside the membranes with the placenta, then put the membrane bag into the womb. Put the bottom of the placenta up against the red circle inside the womb and pin it with a pin.

1. Pull the drawstring to close the cervix.



2. Then open the drawstring so the baby can be "born." (If you want to show that the waters have broken, open the drawstring on the membranes.)

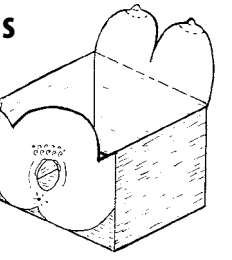




3. Take off the pin and squeeze the placenta out to show the birth of the placenta.

4. Explain that the red circle inside the womb is like an open wound that bleeds. Squeeze the womb to show how it must contract to stop the bleeding.

A model of birth: the birth box and birth pants

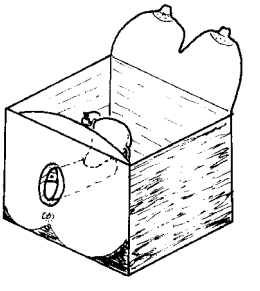


The birth box

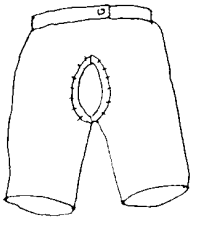
To demonstrate birth, cut and paint a cardboard box to look like a woman's body. Make a hole that the doll can fit through. Make a belly out of the front flap of the box and breasts out of the back flap.

To make the box more real, you can put it on a cot under a cloth or blanket. Put a doll above the box on the cot so it looks like a woman, then have someone lie underneath the cot. This person can push up on the box to show contractions and make panting and moaning sounds as if giving birth.

Or you can put the womb and vagina you made in the birth box to give people an idea of how the womb and vagina fit in the body.



The birth pants



Birth pants give a more real view of birth. Cut a large old pair of pants with a hole for the vaginal opening. Then have a woman wear the birth pants over her clothes and act like a woman in labor. The woman then pushes a doll hidden in her own clothing out through the hole in the birth pants.

Medicines: uses, dosage, and precautions for the medicines referred to in this book

In this chapter:

When to use medicines **463**

How to take medicines safely **464**

Take the full amount. 464
Do not take too much 464
Avoid taking more than 1 medicine at the same time 464
Know and watch for signs of problems with a medicine. 464
Side effects 464
Allergy 465
Taking too much. 466
Poisoning 466
Know as much as you can about the medicine 466

How to give medicines **467**

Medicine names 467
Forms of medicines. 467
How much medicine to give 468
Dosing by weight 469
When to take medicines 469

Kinds of medicine **470**

Antibiotics 470

Problem index **472**

Alphabetical list of medicines **473**

Oral contraceptives (birth control pills) **490**

Medicines for HIV and AIDS **492**

Medicines

uses, dosage, and precautions for the medicines referred to in this book

Medicines are drugs that are used to help the body fight problems like bleeding, allergy, or infection. Some medicines reduce pain.

When we refer to medicines in this book, we usually mean both modern and traditional medicines, but this part of the book is mostly about the modern medicines that are used for women and babies during pregnancy, birth, and after birth.

Traditional medicines vary a lot from one place to another, so a remedy that is used in one place may not be available anywhere else. You can write down the local medicines that you use in the back of this section — and if you translate this book, be sure to include traditional medicines from your community.

WARNING! **Most of the time, pregnancy and birth are normal and safe and medicine is not needed.** Most health problems are best treated by resting, drinking plenty of liquids, and eating healthy foods. Medicines can be expensive and many have uncomfortable or dangerous side effects. Most medicines pass through the mother's blood or breast milk to her baby. For all of these reasons, **pregnant and breastfeeding women should avoid using medicines** unless they are truly needed.

When to use medicines

Only use a medicine when you know what is causing a problem and you are sure the medicine will help that problem. See page 13 to decide the cause and find the best treatment for a problem.

Before giving a medicine to a woman, ask yourself these questions:

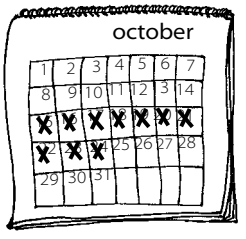
- Will she get better without this medicine?
- Is there a home remedy or traditional medicine that will work as well or better?
- Are the benefits of using this medicine greater than the cost and the risks?

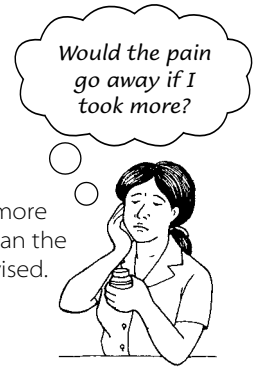
How to take medicines safely

- Take the full amount.
- Do not take too much.
- Avoid taking more than 1 medicine at the same time.
- Know and watch for signs of problems.
- Know as much as you can about a medicine.

Take the full amount

Many medicines, particularly antibiotics (see page 470) must be taken for a number of days to work. A woman who is taking medicines must take them for the full number of days she is supposed to — even if she feels better before then. This is because the medicine kills the weakest germs first and takes longer to kill the stronger germs. If some germs are not killed, the infection may come back. And because these stronger germs are harder to kill, the drug may not work to fight the disease anymore — for the individual woman who did not take her full amount of medicine, or for others in the community who get sick with the same disease. This is called drug resistance.





Never take more medicine than the amount advised.

Do not take too much

Some people think that taking more medicine will heal the body faster. This is not true and can be dangerous! **If you take too much medicine at one time or take a medicine too often, it may cause serious harm.** See page 466.

Avoid taking more than 1 medicine at the same time

Some medicines can stop other medicines from working. Some medicines cause problems when they are taken with other medicines.

Avoid combination medicines (2 or more medicines in 1 tablet). Some combination medicines are necessary, but they usually cost more, and you may be putting medicine in your body that you do not need. For example, some eye drops and eye ointments contain both antibiotics and steroids. The steroids can be harmful. Combination medicines can also cause more side effects.

Know and watch for signs of problems with a medicine

Side effects

Many medicines have side effects. These are unintended effects of the medicine that are annoying or uncomfortable. Common side effects are nausea, stomach aches, headaches, or sleepiness.

Side effects can sometimes be very severe — like damage to the organs inside the body. A medicine with these effects is usually only worth taking in emergencies. Sometimes you should only take a medicine for a short time and then stop to avoid being hurt by the side effects.

Whenever you give a medicine to a woman, tell her what side effects she might have. If she has these effects, she will know it is normal and she is more likely to keep taking the medicine for the needed number of days. She will also know which effects are not normal side effects, and might show that she has an allergy.

Allergy

Some people are allergic to certain medicines. When a person is given that medicine, her body has a reaction. She may have a small, uncomfortable reaction or a very serious reaction that can endanger her life.

Do not give a medicine to someone who is allergic to that medicine. Do not give the person any medicines from the same family (see page 470).

To prevent an allergic reaction from a medicine:

1. Before giving any medicine, ask the woman if she has had itching or other problems after taking that medicine or a similar medicine in the past. If she has had a reaction in the past, do not give that medicine or any medicine from the same family.
2. Stay with a woman for 30 minutes after giving an injection. During this time, watch for signs of allergic reaction.
3. Have medicines ready to fight allergic reaction.

Signs of allergic reaction:

- skin rash
- itching skin or eyes
- swelling of the lips or face
- wheezing

For allergy

- give 25 mg diphenhydramine.....by mouth, 1 time

or

- give 25 mg promethazine.....by mouth, 1 time

You can give another 25 mg of either medicine in 6 hours if rash, itching, swelling, or wheezing has not stopped.

Signs of severe allergic reaction or allergic shock:

- pale skin
- cold, sweaty skin
- weak, rapid pulse or heartbeat
- difficulty breathing
- low blood pressure
- loss of consciousness

For allergic shock

Get medical help. On the way:

- inject 1:1000, 0.5 ml adrenaline ..... under the skin, 1 time only (subcutaneous injection)

and

- inject 50 mg diphenhydramine ..... in the muscle, 1 time only

and

- inject 500 mg hydrocortisone ..... in the muscle, 1 time only

Taking too much

Some common signs of taking too much of a medicine are:

- nausea
- vomiting
- pain in the stomach
- headache
- dizziness
- ringing in the ears
- fast breathing

These can also be side effects for some medicines. If you are not sure whether the woman has taken too much, use the descriptions of the drug on the following pages to check for its common side effects.

If a woman has any of these signs and they are not common side effects of the medicine she is taking, she should stop taking the medicine and get medical help.

Poisoning

Taking too much of a medicine can kill a person, especially a child. Keep medicines away from children. If you think a person may have poisoned herself from taking too much medicine, act quickly to help her:

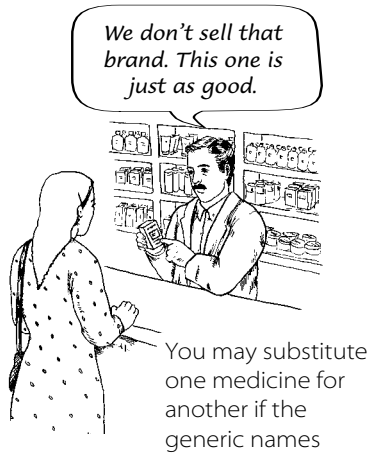
- Try to make the person vomit. She may be able to get the extra medicine out of her body before it harms her more.
- Give activated charcoal (see page 473). Activated charcoal can absorb some kinds of drugs and keep them from acting as poison.
- Get medical help immediately.

Know as much as you can about the medicine

Many medicines must be taken at a certain time of day, with food, or on an empty stomach. Certain medicines are never safe for certain people to take. For example, a woman with high blood pressure should not take ergometrine, which can make blood pressure even worse. Read the descriptions of each drug on the following pages and any information that comes with the drug, or ask pharmacists or health workers so you can learn who can take the medicine safely — and how they should take it for it to be most effective.

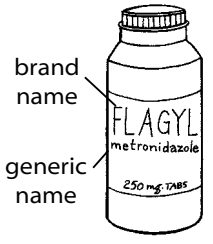
How to give medicines

Medicine names



You may substitute one medicine for another if the generic names are the same.

Medicines usually have 2 names. The generic (or scientific) name is the same everywhere in the world. Some companies that make medicines give each medicine they make a brand name. The same medicine made by 2 different companies will have 2 different brand names. In this book, we use generic names. If you need a certain medicine, any brand will do. Some brands cost much less than others.



Forms of medicines

Medicines come in different forms:

- Tablets, pills, capsules, and liquids are usually taken by mouth. Sometimes they may need to be inserted in the vagina or rectum.
- Inserts (suppositories, pessaries) are put into the vagina or the rectum.
- Injections (see page 345) are given with a needle — into a large muscle (IM), under the skin (intradermal or subcutaneous injection), or into the blood (IV).
- Liquids and syrups that are taken by mouth.
- Creams, ointments, or salves that contain medicine are applied directly to the skin or in the vagina.

In this book, we use pictures to show how a medicine should be given.

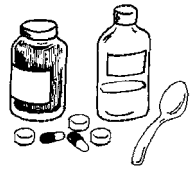
Inject medicines when we show this picture.

Give tablets, pills, capsules, or inserts when we show this picture.

Use ointment or cream when we show this picture.

Give drops when we show this picture.

Give syrup when we show this picture.



Often, the same medicine can be given in different forms. For example, many medicines can be given by mouth or given by an injection. Usually, it is best to give medicines by mouth, because injecting can have risks. But in an emergency, injecting the medicine may be better, because it will usually work more quickly. In this book, we recommend the most effective ways to give each medicine, but you may be able to give a medicine in another form. We do not explain how to give medicines by IV (in the vein), because this method has more risk.

How much medicine to give

Pills, tablets, and capsules come in different weights and sizes. To be sure you are giving the right amount, check how many grams (g), milligrams (mg), micrograms (mcg), or Units (U) each pill or capsule contains.

= means equal to or the same as

+ means and or plus

1/2 tablet = half of a tablet =

1/4 tablet = one quarter (or one fourth) of a tablet =

For tablets, capsules, inserts, and injectable medicines

Most tablets, capsules, inserts, and injectable medicines are measured in grams (g) and milligrams (mg):

1000 mg = 1 g
(one thousand milligrams is the same as one gram)

1 mg = 0.001 g
(one milligram is one one-thousandth part of a gram)

For example: One aspirin tablet has 325 milligrams of aspirin.

You could say that one aspirin tablet has:

.325 g
0.325 g
325 mg

All of these are different ways to say 325 milligrams.

Some medicines, such as birth control pills, are weighed in micrograms (mcg or µcg):

1 µcg = 1 mcg = 1/1000 mg = 0.001 mg
This means there are 1000 micrograms in a milligram.

Injectable medicines may be measured in Units (U) or International Units (IU).

For liquid medicines

Syrups, suspensions, and other liquid medicines are usually given in milliliters (ml) or cubic centimeters (cc). A milliliter is the same as a cubic centimeter.

1 ml = 1 cc

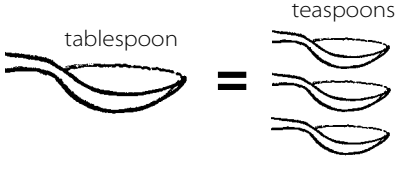
1000 ml = 1 liter

Sometimes liquids are given in teaspoons (tsp) or tablespoons (Tbs).

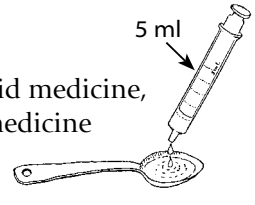
1 tsp = 5 ml

1 Tbs = 15 ml

1 Tbs = 3 tsp



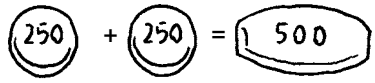
To be sure you are taking the right amount of a liquid medicine, be sure that your teaspoon is 5 ml, or measure the medicine in a syringe.



If your pharmacy does not have the correct weight or size of a medicine

You may have to give part of a pill, or more than one to get the right dose.

For example, if you only have 250 mg tablets of amoxicillin and you are supposed to give 500 mg each time, you must give 2 pills each time.



250 mg + 250 mg = 500 mg

Or, if you only have 500 mg tablets of amoxicillin and you need to give 250 mg each time, you must cut each pill in half.

Dosing by weight

For most medicines in this book, we suggest doses that any adult woman can use. But for some medicines, especially ones that can be dangerous, it is better to figure out the dosage according to a person's weight (if you have a scale).

For example, if you need to give gentamicin, and the dosage says 5 mg/kg/day, this means that each day you would give 5 milligrams (mg) of the medicine for each kilogram (kg) the person weighs.

So a 50 kg woman would receive 250 mg of gentamicin during 24 hours.

This amount should be divided up into separate doses. Dosage instructions will say how many times the medicine should be given each day.

Gentamicin should be given 3 times a day so you would give 80 mg in each dose.

When to take medicines

Some medicines should be taken once a day. Most must be taken more often. You do not need a clock. If the directions say:

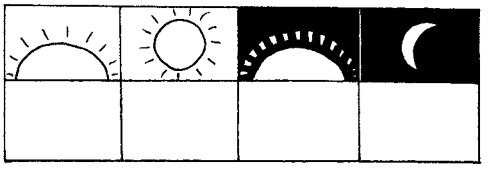
"1 tablet every 8 hours" or "3 tablets a day" ..... take 1 at sunrise, 1 in the afternoon, and 1 at night.

"1 tablet every 6 hours" or "4 tablets a day" ..... take 1 in the morning, 1 at midday, 1 in the late afternoon, and 1 at night.

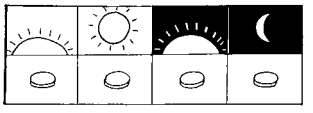
"1 tablet every 4 hours" ..... take 6 pills a day, allowing the same amount of time between each pill.

This is because a medicine only works while it is in the body. After a certain length of time, it passes out of the body. The person must take it regularly throughout the day to keep enough medicine in her body. And taking too much at once can cause poisoning.

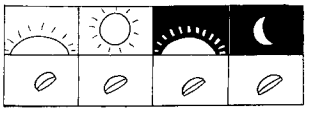
To remind someone who cannot read how often to take their medicine, you can draw them a picture like this: →



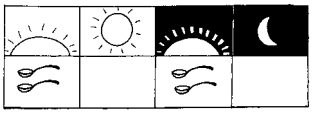
In the blanks at the bottom, draw the amount of medicine to take and carefully explain what it means. For example:



This means they should take 1 tablet 4 times a day: 1 at sunrise, 1 at midday, 1 in the late afternoon, and 1 at night.



This means ½ tablet 4 times a day.



This means 2 spoons of syrup 2 times a day.

Kinds of medicine

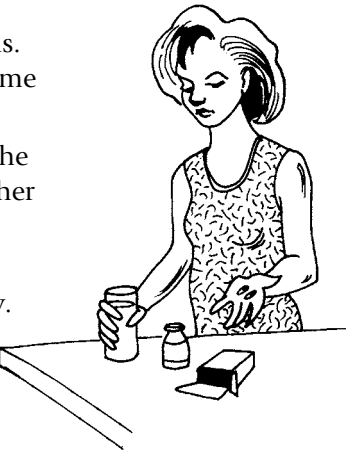
There are several different kinds of medicine listed in this book — antibiotics, pain medicines, medicines to stop allergic reactions or bleeding, and medicines to treat pre-eclampsia. We describe many individual medicines on the following pages. One group of medicines, antibiotics, needs explanation as a group.

Antibiotics

Antibiotics are used to fight infections caused by germs. Antibiotics that are similar to each other are said to come from the same family.

Antibiotics from the same family can usually treat the same problems. If you cannot get one antibiotic, another one from the same family may work instead.

A person who is allergic to one antibiotic is often also allergic to the other antibiotics in the same family. She should not take any antibiotic from that family.

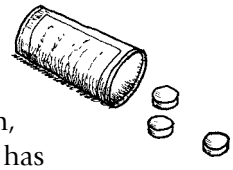


Antibiotics and their families

Penicillins: amoxicillin, ampicillin, benzathine penicillin, benzylpenicillin, dicloxacillin, procaine penicillin, and others

Penicillins work well for a variety of infections. They have very few side effects and are safe to take if pregnant or breastfeeding. They are widely available, low-cost, and can be taken by mouth or injected. Unfortunately, many people are allergic to them. Penicillins have been overused and some diseases are now resistant to them.

Macrolides: azithromycin, erythromycin, and others



Erythromycin works against many of the same infections as penicillin and doxycycline. It is safe for a woman who is pregnant or breastfeeding, or allergic to penicillin. Azithromycin, though harder to find and more expensive, is safe in pregnancy, has fewer side effects, and needs fewer doses than erythromycin.

Tetracyclines: doxycycline, tetracycline

Tetracycline and doxycycline both treat many infections and are low-cost and widely available. **Tetracyclines should not be taken by pregnant or breastfeeding women or by children under 8 years of age.**

Sulfas (sulfonamides): sulfamethoxazole (part of cotrimoxazole), sulfisoxazole

These medicines fight many different kinds of infections and they are cheap and widely available. They can be taken during pregnancy, but **it is better for pregnant and breastfeeding women to take a different medicine**. Many people are allergic to sulfas. Also, some infections have become resistant to them.

Aminoglycosides: gentamicin, streptomycin, and others

These are effective and strong medicines, but most of them can cause serious side effects and can only be given by injection. They should only be used for severe infection when no safer drug is available. **It is better for pregnant and breastfeeding women to take a different medicine.**

Cephalosporins: cefixime, ceftriaxone, cephalexin, and others

These powerful drugs treat many infections that have become resistant to the older antibiotics. They are safer and have fewer side effects than many other antibiotics, but can be very expensive and hard to find. They are safe to use during pregnancy and breastfeeding.

Use antibiotics only when necessary

Antibiotics are used much too often.

- Antibiotics can cause problems like nausea, vomiting, diarrhea, and vaginal yeast infections. Some can cause more serious side effects or allergic reactions.
- Using antibiotics when they are not needed, or for diseases they cannot cure, has made some harmful germs stronger and resistant to medicines that once killed them.

Antibiotics cannot cure illnesses caused by viruses, such as colds or hepatitis.

How to use the list of medicines

This section gives detailed information about the medicines mentioned in this book. Each medicine is listed by its generic (scientific) name, in the order of the alphabet:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Information about birth control pills and medicines for HIV starts after the alphabetical list, on page 490.

To use this list, look up a medicine by its name or use the index of problems below. This index gives the page number where more information about a health problem can be found, and names the medicines we suggest for treating that health problem. Be sure to read more about any health problem before trying to treat it.

Problem	See pages	See medicines
allergic reaction	465, 466	adrenaline, diphenhydramine, hydrocortisone, promethazine
bacterial vaginosis	328	metronidazole
bleeding		
after birth	231	ergometrine, oxytocin, misoprostol
after a miscarriage or abortion	408	ergometrine, misoprostol
chancroid	331	erythromycin, ceftriaxone
chlamydia	324	erythromycin, amoxicillin
emergency contraception	316	birth control pills (ethinyl estradiol, levonorgestrel)
eclampsia	182	magnesium sulfate, diazepam
eye care for newborns	261	erythromycin, tetracycline
genital warts (HPV)	333	bichloracetic acid, trichloracetic acid
gonorrhea	324	ceftriaxone, cefixime
herpes	332	acyclovir
HIV	335, 492	efavirenz, lamivudine, nevirapine, tenofovir, zidovudine
infections		
bladder or kidney	129	amoxicillin, cotrimoxazole
in pregnancy	179	ampicillin, metronidazole
after birth	271	ampicillin, gentamicin, metronidazole
in a newborn	279	ampicillin, gentamicin
breast	289	dicloxacillin, erythromycin
in the womb, from untreated STI	325	amoxicillin, cefixime, ceftriaxone, erythromycin, metronidazole
from female genital cutting	369	erythromycin
after a miscarriage or abortion	410, 411	ampicillin, gentamicin, metronidazole, doxycycline, tetanus toxoid, tetanus antitoxin
malaria	98 to 99	artesunate (artemisinin), chloroquine, clindamycin
medication to numb		
for sewing a tear or doing MVA	360, 424	lidocaine
pain	289, 332, 420	paracetamol
placenta not coming out	228	oxytocin, misoprostol
preventing infection		
for people with HIV	101, 335	cotrimoxazole
preventing infection of the womb		
after an invasive procedure	231	amoxicillin, metronidazole
syphilis	330	benzathine benzylpenicillin, erythromycin
trichomonas	326	metronidazole
yeast	327	clotrimazole, gentian violet, miconazole, nystatin

activated charcoal

Activated charcoal is a specially prepared charcoal used to treat poisonings by drugs like aspirin, paracetamol, chloroquine, or other medicines or chemicals, by absorbing them in the stomach.

Important: Do not give activated charcoal if the person has swallowed fuel, kerosene, lighter fluid or other petroleum products.

Side effects: Black stool, vomiting, diarrhea.

Often comes in: liquid of 25 g per 120 ml; powder 15 g

How to use:

For treating poisoning, give 30 to 100 g by mouth all at one time.

WARNING: After giving activated charcoal, get medical help immediately. People who take too much of a drug or chemical can get very sick and need much more help than activated charcoal.

WARNING!

acyclovir

Acyclovir is a medicine that fights viruses including herpes.

Important: Acyclovir can reduce the symptoms of herpes infection — but it will not cure it or prevent it from coming back.

Side effects: headache, dizziness, nausea, vomiting.

Often comes in: tablets of 200 mg; powder for mixing injections.

How to use:

For the first outbreak of herpes (see p. 332), give 400 mg by mouth 3 times a day for 7 to 10 days.

For continuing herpes outbreaks, give 400 mg acyclovir by mouth, 3 times a day for 5 days.

continued . . .

acyclovir *continued*

For a woman with more than 6 herpes outbreaks a year, give 400 mg acyclovir by mouth, 2 times every day for 1 year. Then stop and see if the medicine is still needed.

For a pregnant woman who has had herpes outbreaks in the past, give 400 mg acyclovir by mouth, 2 times every day during the last month of pregnancy.

WARNING: This medicine may have some harmful effects in pregnancy. For pregnant women, it is best only to give this medicine for an initial herpes outbreak, or during the last month to prevent an outbreak during labor.

adrenaline
(epinephrine)

Adrenaline is used for allergic reactions or shock, for example, allergic shock caused by penicillin. It is also used for severe asthma attacks.

Important: Take the person's pulse before injecting. Inject just under the skin (subcutaneous injection) on the back of the upper arm, not into the buttocks. If the pulse increases by more than 30 beats a minute after the first injection, do not give another dose. Do not give more than 3 doses.

Side effects: Fear, restlessness, nervousness, tension, headaches, dizziness, increased heart rate.

Often comes in: Ampules for injection of 1 mg in 1 ml.

How to use:

For allergic reaction or shock (see p. 466), inject 1:1000, 0.5 ml just under the skin (subcutaneous injection). If signs do not improve, repeat in 20 minutes. You will also need to give other medicines.

amoxicillin

Amoxicillin is an antibiotic of the penicillin family used to treat womb infections, urine system infections, pneumonia, and other infections. It is now used instead of ampicillin in many places.

Important: Take with food. If you do not start to get better in 3 days, get medical help. You may need a different medicine.

Side effects: Diarrhea, rash, nausea, vomiting. May cause yeast infection in women or diaper rash in children.

Often comes in: tablets of 250 and 500 mg; liquid for injection of 125 or 250 mg per 5 ml; syrup of various strengths.

How to use:

For kidney infection (see p. 129), give 500 mg by mouth 3 times a day for 7 days.

For chlamydia (see p. 324), give 500 mg by mouth 3 times a day for 7 days.

For pelvic infection (see p. 325), give 500 mg by mouth 3 times a day for 14 days.

For infection after genital cutting (see p. 369), give 500 mg by mouth 3 times a day for 10 days.

For preventing infection after an invasive procedure (see p. 231), give 1 g by mouth, 1 time only. Also give metronidazole.

Other drugs that may work: Ampicillin can almost always be used instead of amoxicillin. A person who is allergic to penicillins can try erythromycin.

WARNING: Do not give amoxicillin to someone who is allergic to drugs in the penicillin family.

ampicillin

Ampicillin is an antibiotic of the penicillin family used to treat many kinds of infections.

Important: Take ampicillin before eating.

Side effects: May cause stomach upset, diarrhea, and rash. May cause yeast infection in women or diaper rash in children.

Often comes in: tablets or capsules of 250 and 500 mg; liquid for injection of 125 or 250 mg per 5 ml; powder for mixing injections.

How to use:

For infection during labor (see p. 179), give 2 g by mouth 4 times a day for 7 to 10 days. Also give metronidazole.

For infection after birth (see p. 271), give 2 g by mouth or injected into muscle for the first dose, then give 1 g 4 times a day until fever has been gone for 48 hours. Give other antibiotics too.

For infection in a newborn baby (see p. 279), inject in the thigh muscle 2 times a day for a baby less than 1 week old, 3 times a day for a baby 1 week old or more. For a baby that weighs 2 kg or less, use 80 mg; 3 kg, use 150 mg; 4 kg or more, use 200 mg.

For infection after abortion (see p. 410), inject 2 g in the muscle, then reduce dose to 1 g, 4 times a day until fever has been gone for 48 hours. Give other antibiotics too.

or give 3.5 g by mouth 1 time only.

Other drugs that may work: Amoxicillin can almost always be used instead of ampicillin. A person who is allergic to penicillins can try erythromycin.

WARNING: Do not give ampicillin to someone who is allergic to drugs in the penicillin family.

WARNING!

artemisinin

(artesunate, artemether, wormwood)

Artemisinin is a family of medicines used to fight malaria. There are other drugs used against malaria, but not all of them still work because of "drug resistance" (see p. 464). Talk to your health ministry to find out what works against malaria where you live.

Important: Artemisinin seems to become stronger if you also drink grapefruit juice.

Prevent malaria by sleeping under treated bednets.

Often comes in: artesunate tablets 50 mg; artemether ampules for injection 80 mg/ml in 1 ml.

How to use:
For malaria (see p. 99), give 300 mg artesunate by mouth once a day for 7 days. You must almost always give another medicine with artemisinin. Contact your local health authority.

Other drugs that may work:
chloroquine, quinine, clindamycin, others.

WARNING: It is not known whether artemisinin is safe in the first 3 months of pregnancy.

benzylpenicillin

(penicillin G)

Benzylpenicillin is an antibiotic of the penicillin family used to treat serious infections.

Important: Be ready to treat an allergic reaction (see p. 465).

Side effects: May cause yeast infection in women or diaper rash in children.

Often comes in: Powder for mixing injections of 1 or 5 million Units.

continued . . .

benzylpenicillin *continued*

How to use:
For tetanus in a newborn (see p. 278), inject 100,000 Units into the muscle in the front of the thigh, 1 time only.

Other drugs that may work:
ampicillin, procaine penicillin.

WARNING: Do not give benzylpenicillin to someone who is allergic to drugs in the penicillin family.

benzathine benzylpenicillin

(penicillin G benzathine)

Benzathine benzylpenicillin is a long-acting antibiotic of the penicillin family used to treat syphilis, genital ulcers, and other infections. It is always given as an injection into muscle.

Important: May cause yeast infection in women or diaper rash in children. Be ready to treat an allergic reaction (p. 465).

Often comes in: powder for mixing injections of 1.2 or 2.4 million Units in a 5 ml vial.

How to use:
For syphilis (see p. 330), inject 2.4 million Units into muscle 1 time only. If the sores have disappeared but syphilis shows in a blood test, then repeat the injection once a week for 2 more weeks.

If a baby needs to be treated, inject about 150,000 Units into muscle 1 time only (or 50,000 Units per kilogram of the baby's weight).

Other drugs that may work:
erythromycin.

WARNING: Do not give benzathine benzylpenicillin to someone who is allergic to medicines in the penicillin family.

BCG vaccine

The BCG vaccine helps to protect against getting tuberculosis (TB).

Important: The BCG vaccine is a live vaccine so it must be kept cold at all times or it will not work.

Side effects: The vaccination usually makes a sore and leaves a scar.

Often comes in: liquid for injection.

How to use:
Inject 0.1 ml in the skin (intradermal injection), usually on the upper arm.

cefixime

Cefixime is an antibiotic of the cephalosporin family that is used to treat many infections including gonorrhea, pelvic infection, and others.

Important: Be ready to treat an allergic reaction (see p. 465). People who have liver problems should be careful when taking cefixime.

Side effects: Nausea, diarrhea, headache. May cause yeast infection in women or diaper rash in children.

Often comes in: tablets of 200 or 400 mg; liquid with 100 mg in 5 ml.

How to use:
For gonorrhea (see p. 324) or pelvic infection (see p. 325), give 400 mg by mouth one time only.

Other drugs that may work:
ceftriaxone, erythromycin.

WARNING: Do not give cefixime to someone who is allergic to medicines in the cephalosporin family.

ceftriaxone

Ceftriaxone is a very strong antibiotic of the cephalosporin family that is injected into muscle. It is used for many infections including gonorrhea, pelvic infection, kidney infections, and serious infections after abortion, childbirth, or miscarriage.

Important: Be ready to treat an allergic reaction (see p. 465).

Side effects: May cause yeast infection in women or diaper rash in children.

Often comes in: In vials for injection of 250 and 500 mg, and 1 gram, 2 grams, and 10 grams.

How to use:
For gonorrhea (see p. 324) or chancroid (see p. 331), inject 250 mg into muscle 1 time only.

For gonorrhea in a newborn (see p. 324), inject 125 mg ceftriaxone into the thigh muscle 1 time only.

Other drugs that may work: cefixime, erythromycin.

WARNING: Do not give ceftriaxone to someone who is allergic to medicines in the cephalosporin family.

chloroquine

Chloroquine is used against malaria.

Important: Take chloroquine with food.

Chloroquine often must be taken along with other medicines to work. Check with your local health authorities to see what works where you live.

Prevent malaria by sleeping under treated bednets.

Side effects: Blurring of vision that should stop after you stop using it.

Often comes in: chloroquine phosphate comes in tablets of 250 mg; chloroquine sulfate comes in tablets of 200 mg.

How to use:
For malaria (see p. 98), give 600 mg by mouth once a day for 2 days. Then on the third day, give 300 mg.

Other drugs that may work:
artemisinin, clindamycin, quinine, others.

WARNING: In many parts of the world, chloroquine no longer stops malaria.

People with epilepsy should not use chloroquine.

WARNING!

clindamycin

Clindamycin is a strong antibiotic. In this book, we only describe how to use it to treat malaria.

Side effects: Diarrhea, vomiting, rash, metallic taste in the mouth. May cause yeast infection in women or diaper rash in children.

Often comes in: capsules of 150 mg; liquid for injection of 150 mg per ml.

How to use:
For malaria (see p. 99), give 600 mg by mouth 2 times a day for 7 days. You must also give artesunate (see artemisinin).

Other drugs that might work:
artemisinin, choloroquine, quinine, others.

WARNING: Clindamycin can cause serious problems with the colon.

It also passes through a breastfeeding mother's milk to her baby.

Only use this drug when it is truly needed.

WARNING!

cotrimoxazole

(trimethoprim + sulfamethoxazole)

Cotrimoxazole is a combination of 2 antibiotics (one from the sulfa family) that is used to treat bladder, kidney, and other infections. It also helps prevent infections for people with HIV and AIDS.

Important: Take with lots of water.

Side effects: Stop taking cotrimoxazole if it causes allergic reactions like itching or rashes. It may also cause nausea or vomiting.

Often comes in: tablets of 120, 480, and 960 mg; liquid of 240 mg per 5 ml.

How to use:

For kidney infections (see p. 129), give 960 mg (160 mg trimethoprim and 800 mg sulfamethoxazole) by mouth 2 times a day for 7 days.

To prevent infections for adults with HIV, take 960 mg by mouth every day.

For children of mothers with HIV:
For babies less than 6 months old, give 120 mg of liquid every day.
For children 6 months to 6 years old, give 240 mg of liquid every day.

WARNING: Women in the last 3 months of pregnancy should not use this drug.

Do not give cotrimoxazole to someone who is allergic to medicines in the sulfa family.

Do not give cotrimoxazole to someone already taking sulfadoxine-pyrimethamine for malaria.

WARNING!

diazepam

Diazepam is a tranquilizer used to treat and prevent convulsions and seizures.

Side effects: Sleepiness, loss of balance, confusion.

Often comes in: tablets of 5 or 10 mg; liquid for injections of 5 mg per 1 ml.

How to use:

For convulsions (see p. 182), give 20 mg of injectable diazepam in the rectum using a syringe without a needle (see p. 182). Repeat if needed using 10 mg, 20 minutes after the first dose. Do not give more than 30 mg in 8 hours. Crush diazapam tablets into water if you do not have injectable diazapam.

Other drugs that may work:
magnesium sulfate.

WARNING: Diazepam is an addictive (habit-forming) drug.

Do not use diazepam with alcohol or other drugs that can make you sleepy.

Frequent or large doses of diazepam during pregnancy can cause birth defects.

This medicine also passes through breastmilk, so breastfeeding mothers should avoid it except in emergencies.

dicloxacillin

Dicloxacillin is an antibiotic of the penicillin family used to treat breast and skin infections.

Important: Be ready to treat an allergic reaction (see p. 465).

Side effects: Nausea, vomiting, diarrhea. May cause yeast infection in women or diaper rash in children.

Often comes in: capsules of 125, 250, and 500 mg; liquid with 62.5 mg per 5 ml.

How to use:
For breast infection (see p. 289), give 500 mg by mouth 4 times a day for 7 days.

Other drugs that may work:
erythromycin.

WARNING: Do not give dicloxacillin to someone who is allergic to medicines in the penicillin family.

diphenhydramine

Diphenhydramine is an antihistamine that treats allergic reactions and allergic shock. It is also used for treating chronic itching and sleep problems for people with AIDS.

Side effects: Sleepiness and dryness in the mouth and nose. May cause nausea and vomiting. Very rarely causes excitement rather than sleepiness.

Often comes in: tablets or capsules of 25 or 50 mg; syrup with 12.5 mg per 5 ml; ampules for injection with 10, 30, or 50 mg in 1 ml.

How to use:
For mild to moderate allergic reaction (see p. 465), give 25 mg by mouth every 6 hours until signs go away.

For allergic shock (see p. 466), inject 50 mg into muscle. Repeat in 4 hours if signs do not improve.

Other drugs that may work:
promethazine.

WARNING: Diphenhydramine is best taken by mouth. Only inject it for severe allergic reactions and shock.

Do not use diphenhydramine with alcohol or tranquilizers. It makes the effects dangerously strong.

This medicines is OK to use in emergencies, but should not be used regularly in pregnancy or while breastfeeding.

doxycycline

Doxycycline is an antibiotic of the tetracycline family used to treat many different infections.

Important: Do not take with milk or other dairy products or with antacids. Take pills while sitting up and with lots of water. Stay out of the sun or you may get a rash.

Side effects: Diarrhea, upset stomach. May cause yeast infection in women or diaper rash in children.

Often comes in: tablets of 50 and 100 mg.

How to use:
For infection after abortion (see p. 410), give 100 mg by mouth 2 times a day for 10 days.

Other drugs that may work:
amoxicillin, metronidazole.

WARNING: Women who are pregnant or breastfeeding should not take this medicine.

Doxycycline may not be safe to use after it has passed its expiration date.

ergometrine
(ergonovine, methylergonovine)

Ergometrine causes contractions of the womb and its blood vessels and is used to control heavy bleeding after childbirth or an abortion.

Side effects: Nausea, vomiting, dizziness, sweating.

Often comes in: tablets of 0.2 mg; in vials for injection of 0.2, 0.25, and 0.5 mg in 1 ml.

How to use:
For heavy bleeding after childbirth (see p. 231), give 0.2 mg by mouth every 6 to 12 hours,

or inject 0.2 mg in muscle every 6 to 12 hours.

For heavy bleeding after an abortion (see p. 408), inject 0.2 mg in the muscle,

or give 0.2 mg by mouth.

Other drugs that may work:
misoprostol, oxytocin.

WARNING: Do not use ergometrine to start or speed up labor or to cause an abortion.

Do not give this drug before the baby and the placenta have come out.

erythromycin

Erythromycin is an antibiotic of the macrolide family used to treat many infections. It can be used safely during pregnancy and is often a good choice when a woman is allergic to penicillin family antibiotics.

Important: Erythromycin works best when taken 1 hour before or 2 hours after a meal. If this makes a person nauseated, take with a little food.

Do not break up tablets. Tablets are often coated to prevent strong stomach juices from breaking down the drug before it can begin to work.

Side effects: Upset stomach, nausea, diarrhea. May cause yeast infection in women or diaper rash in children.

Often comes in: tablets or capsules of 250 mg; powder for solution of 125 mg per 5 ml; ointment of 1%.

How to use:

For newborn eye care (see p. 261), use 0.5% or 1% ointment 1 time only, within 2 hours of the birth.

For breast infection (see p. 289), chlamydia (see p. 324), or chancroid (see p. 331), give 500 mg by mouth 4 times a day for 7 days.

For a baby with chlamydia (see p. 324), give 30 mg syrup by mouth 4 times a day for 14 days.

For syphilis (see p. 330) or pelvic infection (see p. 325), give 500 mg by mouth 4 times a day for 14 days.

For infection after genital cutting (see p. 369), give 500 mg by mouth 4 times a day for 10 days.

continued . . .

erythromycin *continued*

Other drugs that may work:
amoxicillin, benzathine benzylpenicillin, ceftriaxone, dicloxicillin, iodine, procaine penicillin, tetracycline eye ointment.

WARNING: Do not give erythromycin to someone who is allergic to drugs in the macrolide family.

ferrous sulfate

(iron)

Iron is a mineral that everyone, especially a pregnant woman, needs to have healthy blood and enough energy. It is possible but difficult to get enough iron by eating meat or lots of green leafy vegetables.

Important: Eating fruits and vegetables high in vitamin C can help the body use iron better.

Side effects: Nausea, diarrhea, constipation. Iron is best taken with food.

Often comes in: tablets of many different strengths.

How to use:

To prevent anemia in pregnancy, give 300 to 325 mg by mouth once a day with meals, throughout pregnancy.

To treat anemia (see p. 116), give 300 to 325 mg by mouth 2 or 3 times a day until the woman no longer has signs of anemia, or throughout pregnancy.

WARNING: High doses of iron can be poisonous. Keep iron away from children.

folic acid

(folate, folacin)

Folic acid is an important vitamin that helps prevent birth defects when the mother takes it early in pregnancy.

Often comes in: tablets of 0.1 mg, 0.5 mg, 0.8 mg (100, 500, and 800 micrograms).

How to use:

To prevent birth defects (see p. 37), give 0.5 to 0.8 mg by mouth every day.

WARNING!

gentamicin

Gentamicin is a very strong antibiotic of the aminoglycoside family that is used to treat serious infections.

Important: Use gentamicin only if the woman cannot take other drugs without vomiting, or if no other antibiotic is available. Give with plenty of fluids.

Side effects: May cause yeast infection in women or diaper rash in children.

Often comes in: vials for injection of 10 or 40 mg per ml.

How to use:

For womb infection after birth (see p. 271), inject 80 mg gentamicin in the muscle, 3 times a day until fever has been gone for 48 hours.

For infection after abortion (see p. 410), inject 300 mg in the muscle 1 time a day until fever has been gone for 48 hours. You must give other antibiotics too.

(***Or*** use 5 mg for each kg the mother weighs, injected in the muscle 1 time a day.)

For infection in a newborn (see p. 279) inject 4 mg per kg the baby weighs, in the muscle, once a day for 7 days. So for a 3 kg baby, inject 12 mg a day.

continued . . .

gentamicin *continued*

Other drugs that may work:
ampicillin, benzylpenicillin, doxycycline, metronidazole, others.

WARNING: Gentamicin can damage the kidneys and cause deafness. When it is given in pregnancy, it may cause birth defects in a baby. Do not give gentamicin to someone who is allergic to drugs in the aminoglycoside family.

gentian violet

(crystal violet, methylrosanilinium chloride)

Gentian violet is a disinfectant used to fight fungus infections of the skin, mouth, and vagina.

Important: Stop using gentian violet if it irritates the skin. A person with a yeast infection should not have sex until she is cured, to avoid passing the infection to her partner. Gentian violet will stain skin and clothes purple.

Often comes in: liquid of 0.5%, 1%, and 2%; tincture of 0.5%; dark blue crystals to mix in water where 1 teaspoon in ½ liter of water makes a 2% liquid.

How to use:

For yeast infections in a baby's mouth (thrush) (p. 290), wipe the baby's mouth and the mother's nipples with a 0.25% liquid once a day for up to 5 days.

For yeast infections of the vagina (see p. 327), make a vaginal insert by soaking clean cotton in 1% liquid and place high in the vagina every night for 3 nights (remember to remove the insert in the morning).

Other drugs that may work:
miconazole, nystatin.

hydrocortisone

(cortisol)

Hydrocortisone fights swelling and itching and can be used to treat rashes. It also helps treat allergic shock.

Often comes in: creams or ointment of 1%; tablets of 5, 10, and 20 mg; liquid for injection; powder for mixing for injections of various strengths.

How to use:

For allergic shock (see p. 466), inject 500 mg into muscle. Repeat in 4 hours if needed. Also give other drugs.

WARNING: Pregnant and breastfeeding women should not use this medicine regularly — only in emergencies to treat allergic shock.

lidocaine

(lignocaine)

Lidocaine is an anesthetic. It blocks pain in the part of the body where it is injected. It can be used to prevent pain while sewing tears or episiotomies, or during a manual vacuum aspiration.

Important: Check the label: only use lidocaine without epinephrine because the epinephrine can stop the flow of blood to the area and cause great damage.

Often comes in: liquid for injection in strengths of 0.5%, 1%, or 2%.

How to use:

For a local anesthetic, inject 5 to 30 ml 1% solution in the skin.

magnesium sulfate

Magnesium sulfate is used to stop convulsions in pregnant women with eclampsia.

Important: Injecting magnesium sulfate requires a big needle and may be uncomfortable. You can split the dose in half and give 2 smaller doses, 1 in each buttock. If you have it, you could also use a little lidocaine to lessen the pain.

Often comes in: liquid for injection of 10%, 12.5%, 25%, or 50%.

How to use:

To stop a convulsion in a woman with eclampsia (see p. 182), inject 10 grams of 50% solution into muscle. If necessary, give another dose after 4 hours.

Other drugs that may work: diazepam.

WARNING: Only use this drug if a woman's blood pressure is over 160/110 or if she is having a convulsion. Stop using this drug and get medical help immediately if her breathing slows to less than 16 breaths a minute or if she has not urinated for 4 hours.

Women with kidney problems should not use magnesium sulfate.

WARNING!

metronidazole

Metronidazole is used against some bacteria, amoebic dysentery, trichomonas, and vaginal infections.

Important: Drinking alcohol while taking metronidazole will cause nausea.

Side effects: Metallic taste in mouth, dark urine, nausea, vomiting, headache.

Often comes in: tablets of 200, 250, 400, and 500 mg; inserts of 500 mg; injection of 500 mg in 100 ml vial; suspension of 200 mg in 5 ml.

How to use:

For womb infection in pregnancy (see p. 179), give 400 to 500 mg by mouth 3 times a day for 7 to 10 days.

For infection after birth (see p. 271), give 400 to 500 mg by mouth 3 times a day until fever has been gone for 48 hours.

To prevent infection in the womb after an invasive procedure (see p. 231), give 1 g by mouth 1 time only. Also give amoxicillin.

For bacterial vaginosis (see p. 328) or trichomonas (see p. 326), give 400 to 500 mg by mouth 2 times a day for 7 days,

or put a 500 mg insert high in the vagina every night for 7 nights.

For pelvic infection (see p. 325), give 400 to 500 mg by mouth 3 times a day for 14 days. You must give other antibiotics too.

For infection after abortion (see p. 410), give 400 to 500 mg by mouth 3 times a day until fever has been gone for 48 hours. You must give other antibiotics too.

Other drugs that may work:
amoxicillin, ampicillin, benzylpenicillin, gentamicin, doxycycline.

continued . . .

metronidazole *continued*

WARNING: It is best not to use metronidazole during the first 3 months of pregnancy. People with liver problems should not use this drug.

WARNING!

miconazole

Miconazole fights yeast and other fungus infections in the mouth (thrush), the vagina, or the skin.

Important: Stop using miconazole if it irritates the skin. A person with a yeast infection should not have sex while using miconazole to avoid passing the infection to her partner.

Often comes in: cream of 2%; inserts of 100 and 200 mg.

How to use:

For yeast infections of the vagina (see p. 327), put a 200 mg insert high in the vagina every night for 3 nights.

Other drugs that may work:
gentian violet, nystatin.

WARNING: Do not use miconazole during the first 3 months of pregnancy.

mifepristone

Mifepristone can be used with misoprostol or other medicines to end a pregnancy in the first 9 weeks.

Important: It is best to be close to medical help when taking this medicine in case it does not empty the womb completely.

Often comes in: tablets of 200 mg.

How to use:
See directions for using with misoprostol below.

Other drugs that may work:
misoprostol.

WARNING: If this medicine does not end the pregnancy completely, the womb must be emptied by MVA or D&C abortion.

misoprostol

Misoprostol helps empty the womb or stop heavy bleeding after a birth.

Important: Misoprostol is usually used with another medicine called mifepristone to end a pregnancy. Used by itself, misoprostol may not completely empty the womb. An abortion caused by misoprostol may take several hours to several days to finish.

After an incomplete abortion, misoprostol can empty the womb and help save a woman's life.

Wetting misoprostol tablets before giving them may make them more effective.

continued . . .

misoprostol *continued*

Side effects: Nausea, vomiting, diarrhea, headache. If the woman is breastfeeding, misoprostol will cause diarrhea in infants.

Often comes in: tablets of 100 or 200 micrograms.

How to use:
For delivering the placenta (see p. 228), give 600 micrograms by mouth.

To slow heavy bleeding after a birth (see p. 231), or **for incomplete abortion** (see p. 408), give 600 micrograms by mouth by putting tablets against each cheek or under the tongue until they dissolve, then swallow. If the woman cannot swallow, insert pills in her rectum where they will dissolve and be absorbed. Wear a glove. Either way, you can repeat the dose 24 hours later if necessary.

To end a pregnancy with misoprostol and mifepristone (see p. 408), give 200 mg mifepristone by mouth and then 2 days later give 800 micrograms of misoprostol by mouth or in the rectum, as for incomplete abortion above.

or **if you do not have mifepristone**, give 800 micrograms misoprostol by mouth or in the rectum once a day for 2 days. Be ready to get medical help if the womb does not empty completely.

WARNING: Do not use misoprostol to empty the womb (end a pregnancy) after the 3rd month.

Never use misoprostol to speed up or start a labor. It could cause the womb to tear open.

nystatin

Nystatin fights yeast and other fungus infections in the mouth (thrush), the vagina, or the skin.

Important: Stop using nystatin if it irritates the skin.

A person with a yeast infection should not have sex while using nystatin to avoid passing the infection to her partner.

Nystatin works only against candida yeast infections, while miconazole works against other fungal infections as well.

Side effects: Diarrhea and stomach upset.

Often comes in: Inserts, lozenges for the mouth, and cream of 100,000 Units; liquid with 100,000 Units per ml.

How to use:
For mouth or throat infections, put 1 ml of liquid in mouth, swish around both sides of mouth for 1 minute, and swallow. Do this 3 or 4 times a day for 5 days.

For vaginal infections (see p. 327), put one 100,000 Unit insert high in the vagina every night for 14 nights.

Other drugs that may work: gentian violet, miconazole.

oxytocin

Oxytocin is used to cause contractions of the womb and its blood vessels to control heavy bleeding after abortion or childbirth.

Often comes in: 10 Units in 1 ml for injection.

How to use:
For delivery of the placenta (see p. 228) or to stop bleeding after the baby is born (p. 231), inject 10 Units in the muscle. Repeat after 10 minutes if needed.

Other drugs that may work:
ergometrine, misoprostol.

WARNING: Do not use oxytocin to start or speed up labor. Oxytocin can make the womb contract so strongly that it will tear open.

Do not use this drug to cause an abortion because it could kill the woman before ending the pregnancy.

paracetamol

(acetaminophen)

Paracetamol is used to ease pain and lower fever.

Important: Paracetamol does not cure sickness, it only eases pain or fever. It is important to find the cause of the pain and fever and treat that.

Often comes in: tablets of 100, 325, and 500 mg; liquid of 120 and 160 ml per 5 ml.

How to use:
Take 500 to 1000 mg by mouth every 4 to 6 hours. Do not take more than 4000 mg of paracetamol in 24 hours.

Other drugs that may work:
Aspirin or ibuprofen may work, but do not use either during pregnancy.

WARNING: Paracetamol should not be used by women with liver or kidney problems. It can cause liver damage if taken regularly every day, or if it is used after drinking alcohol. Do not take more than 4000 mg a day and do not combine with other medicines that contain paracetamol.

procaine penicillin

(benzylpenicillin procaine, PAM)

Procaine penicillin is a medium- to long-lasting antibiotic of the penicillin family used to treat womb and other infections.

Important: When taken with probenecid, the amount of penicillin in the blood increases and lasts longer, making the treatment more effective. Be ready to treat for allergic reaction (see p. 465).

Side effects: May cause yeast infection in women or diaper rash in children.

Often comes in: vials for injection of 300,000 and 400,000 and 600,000 Units; powder for mixing injections where 1 gram = 1 million Units.

How to use:
For serious infection during labor (see p. 179), inject 1.2 million Units in the muscle. Repeat after 12 hours if needed.

Other drugs that may work: ampicillin, benzylpenicillin.

WARNING: Procaine penicillin can cause asthma attacks in people who have asthma.

Never use this drug with tetracycline.

Do not give procaine penicillin to someone who is allergic to antibiotics in the penicillin family.

promethazine

Promethazine is an antihistamine used to treat allergic reactions and allergic shock.

Side effects: Dry mouth and nose, blurry vision. Rarely, twitching of the body, face, or eyes.

Often comes in: tablets of 10, 12.5, and 25 mg; syrup of 5 mg per 5 ml; ampules for injection of 25 mg in 1ml.

How to use:

For moderate allergic reaction (see p. 465), give 25 mg by mouth. Repeat in 6 hours if needed.

For allergic shock (see p. 466), inject 50 mg in muscle. Repeat in 6 hours if needed.

Other drugs that may work:
diphenhydramine.

WARNING: Promethazine is best taken by mouth. Only inject it for severe allergic reactions and shock.

This medicine is OK to use in emergencies, but should not be used regularly in pregnancy or while breastfeeding.

tetanus antitoxin
(tetanus immunoglobulin)

Tetanus antitoxin and tetanus immunoglobulin are similar medicines which can be given to people who have been exposed to tetanus but have not received tetanus toxoid vaccinations.

continued . . .

tetanus antitoxin *continued*

Important: Many people are allergic to tetanus antitoxin. Give an antihistamine like diphenhydramine 15 minutes before giving tetanus antitoxin.

4 weeks after giving antitoxin or immunoglobulin, start giving tetanus toxoid vaccinations (see next page). If you will not be able to see the woman again in 4 weeks, it is OK to give the vaccine on the same day as the antitoxin or immunoglobulin. But do not inject tetanus antitoxin or tetanus immunoglobulin into the same spot where you inject tetanus toxoid vaccination — it will stop the vaccination from working.

Side effects: Allergy.

Often comes in: tetanus antitoxin comes in vials of 1,500, 20,000, 40,000, and 50,000 Units. Tetanus immunoglobulin comes in vials of 250 Units.

How to use:

For someone who has a wound that could cause tetanus (like from an unsafe abortion, see p. 411) and has not been vaccinated against tetanus, inject 1,500 Units tetanus antitoxin in the muscle,

or inject 250 Units tetanus immunoglobulin in the muscle.

If a person develops signs of tetanus inject 50,000 Units of tetanus antitoxin in the muscle,

or inject 5000 Units tetanus immunoglobulin in the muscle.

Other drugs that may work:
benzylpenicillin, tetanus toxoid vaccine.

WARNING: Tetanus can easily kill a person. Get medical help even after giving antitoxin or immunoglobulin.

tetanus toxoid vaccine

Tetanus toxoid is an immunization given to prevent a tetanus infection. It can be given during or after preganancy, or after abortion or female genital cutting. If a woman gets 2 injections (or better still, 3 injections — see schedule) when pregnant, it will also prevent this deadly infection in her newborn baby.

Important: Tetanus immunizations should be given to everyone starting in childhood. Tetanus immunization is often given to children as part of a combined immunization called DPT, and the 3 DPT immunizations are equal to the first 2 tetanus toxoid immunizations.

Side effects: Pain, redness, warmth, slight swelling.

Often comes in: single dose (0.5 ml) ampules for injection or liquid for injection.

How to use:

To give lifetime protection from tetanus (see p. 102), inject 5 immunizations of 0.5 ml into the muscle of the upper arm and then 1 booster injection every 10 years.

Injection 1 .....As soon as possible

Injection 2 .....4 weeks after injection 1

Injection 3 .....6 months after injection 2

Injection 4 .....1 year after injection 3

Injection 5 .....1 year after injection 4

Booster.....10 years after injection 5

To prevent tetanus infection if a woman may already have been exposed (see p. 411), inject 0.5 ml in the muscle. You must also give 1500 Units tetanus antitoxin.

tetracycline

Tetracycline is an antibiotic of the tetracycline family used to treat many infections. In this book we recommend it only for blindness prevention for newborns.

Often comes in:
Ointment of 1%.

How to use:

For newborn eye care (see p. 261), use 1% ointment in each eye at birth, 1 time only, within 2 hours of the birth.

Other drugs that may work:
erythromycin, iodine.

WARNING: Tetracycline by mouth can be dangerous during pregnancy and breastfeeding.

tricloroacetic acid
(bichloroacetic acid)

Either tricloroacetic acid or bichloroacetic acid can be used to treat genital warts.

Important: Use very carefully. It can burn normal skin badly enough to cause a scar. If it spills onto healthy skin, wash off with soap and water.

Often comes in: liquids of varying strengths from 10% to 90%.

How to use:

To treat genital warts (see p. 333) first protect the area around the wart with petroleum jelly. Then put on the trichloroacetic acid. It will hurt for 15 to 30 minutes. Then clean off. Repeat after a week if necessary, but do not use this more than 1 time each week.

Oral contraceptives (birth control pills)

Most birth control pills contain 2 hormones similar to the hormones that a woman's body normally makes. These hormones are called estrogen (ethinyl estradiol) and progestin (levonorgestrel). Birth control pills come in different strengths of each hormone and are sold under many different brand names. Some of the brand names are listed on the next page.

Usually, brands that contain a smaller amount of both hormones are the safest and work best for most women. These "low dose" pills are found in Groups 1, 2, and 3.

To assure effectiveness and minimize spotting (small amounts of bleeding at other times than normal monthly bleeding), take birth control pills at the same time each day, especially with pills that have low amounts of hormones. If spotting continues after 3 or 4 months, try one of the brands in Group 3. If there is still spotting after 3 months, try a brand from Group 4.

As a rule, women who take birth control pills have less heavy monthly bleeding. This may be a good thing, especially for women who are anemic. But if a woman misses her monthly bleeding for months or is disturbed by the very light monthly bleeding, she can change to a brand with more estrogen from Group 4. For a woman who has very heavy monthly bleeding or whose breasts become painful before her monthly bleeding begins, a brand low in estrogen but high in progestin may be better. These pills are found in Group 3.

Women who continue to have spotting or miss their monthly bleeding when using a brand from Group 3, or who became pregnant before while using another type of pill, can change to a pill that has a little more estrogen. These "high dose" pills are found in Group 4.

Women who are breastfeeding, or who should not use regular pills because of headaches or mild high blood pressure, may want to use a pill with only progestin. These pills in Group 5 are also called "mini-pills."

Progestin only pills should be taken at the same time every day, even during the monthly bleeding. Menstrual bleeding is often irregular. There is also an increased chance of pregnancy if even a single pill is forgotten.

group 1 — triphasic pills

These contain low amounts of both estrogen and progestin in a mix that changes throughout the month. Since the amounts change, it is important to take the pills in order.

Brand names:

Logynon
Synophase
Tricyclen
Trinordiol
Trinovum
Triquilar
Triphasil

group 2 — low dose pills

These contain low amounts of estrogen (35 micrograms of the estrogen "ethinyl estradiol" or 50 micrograms of the estrogen "mestranol") and progestin in a mix that stays the same throughout the month.

Brand names:

Brevicon 1 + 35
Neocon
Noriday 1 + 50
Norimin
Norinyl 1 + 35, 1 + 50
Ortho-Novum 1/35, 1/50
Ovysmen 1/35
Perle

group 3 — low dose pills

These pills are high in progestin and low in estrogen (30 or 35 micrograms of the estrogen "ethinyl estradiol").

Brand names:

Lo-Femenal
Lo-Ovral
Microgynon 30
Microvlar
Nordette

group 4 — high dose pills

These pills are higher in estrogen (50 micrograms of the estrogen "ethinyl estradiol") and most are also higher in progestin.

Brand names:

Denoval
Eugynon
Femenal
Neogynon
Nordiol
Ovral
Primovlar

group 5 — progestin only pills

These pills, also known as "mini-pills," contain only progestin.

Brand names:

Femulen
Micronor
Micronovum
Nor-Q D
Microlut

Microval
Neogest
Neogeston
Ovrette

These brands can also be used for emergency contraception (see p. 316).

Medicines for HIV and AIDS

No medicines can cure HIV yet. But people who have HIV can live much longer, healthier lives by taking antiretroviral therapy (ART), a combination of several medicines that must be taken every day. ART medicines also help prevent the spread of HIV to a baby during pregnancy and birth. Check with your local health authority about what ART medicines are available where you live and how to use them.

For more information about HIV infection, see pages 99 and 334. Also see page 478 for another medicine, cotrimoxazole, that can prevent many infections in people with HIV.

Where can a woman get ART? ART medicines are available from HIV or AIDS treatment programs, from clinics and hospitals, and from programs for prevention of mother-to-child (or parent-to-child) transmission, called PMTCT or PPTCT programs. In many places, the medicines are free. A woman taking ART should have regular health care visits about how the ART is affecting her health.

When do women start ART? The best way to know when to start ART is by having a CD4 test, a blood test that measures the strength of the immune system. Most people start ART when their CD4 count is less than 350 (a healthy CD4 count is over 800). When CD4 tests are not available, ART may be started based on the kinds of illnesses a woman has. Women with HIV and tuberculosis should start ART 2 to 8 weeks after beginning treatment for tuberculosis, no matter what their CD4 count is. Women with HIV and hepatitis B should also start ART as soon as possible.

All pregnant women with HIV should take ART, either for their own health or for a limited period of time to protect the baby from HIV. For best protection of the baby, a woman should start taking ART medicines as soon as possible after 14 weeks (3 ½ months) of becoming pregnant. See page 495.

Before starting ART:

Which medicines to use or when to start ART may depend on the woman's health. A health worker will consider conditions such as pregnancy, severe illness or long-lasting fever, anemia, tuberculosis, diabetes, heart disease, or hepatitis, as well as whether she has ever taken ART in the past. Women who live in areas where there is a lot of tuberculosis should talk to a health worker about taking isoniazid to prevent TB.

Women who take ART must take it every day, without fail. If a woman stops taking ART, her HIV will start making her ill again. Taking ART some days and not others lets HIV become resistant to the medicines. This means that those medicines will no longer work as well to treat her. A midwife, as well as people who manage ART programs, can work to ensure there is a steady supply of ART for people with HIV.

Talking to another person using ART can help a woman find ways to deal with difficult side effects of the medicines. Also, someone within her family who knows she has HIV can help remind her to take her medicines every day. Keeping HIV a secret can make it difficult to take medicines at the right time.

What medicines are in ART? Usually 3 or 4 medicines make up a woman's ART combination. Sometimes 2 or 3 medicines are combined in 1 pill. In some places, women are tested to see what medicines will be best for them. Where testing is not available, a few combinations that work well for most women are used. We show some common combinations here. These same medicines can be used during pregnancy, birth, and breastfeeding to protect the baby from HIV.

How to take ART

- Take your medicines every day, at the same time each day.
- If medicines need to be taken 2 times a day, leave 12 hours between the 2 doses. For example, if you take the morning dose at 6:00, then the second dose should be taken at 6:00 in the evening. Having too little medicine in your body can cause drug resistance.
- If you forget to take a dose on time, try to take it within 5 hours. If it is more than 5 hours late, wait until it is time for the next dose.
- Do not stop taking any ART medicine without seeing a health worker to find out if your medicines should be stopped separately or all at the same time.

Side effects of ART

ART has helped many people live longer, healthier lives. But like many other medicines, ART can have side effects. People often find that as they get used to the medicines, many side effects lessen and may go away completely. Common side effects for ART are diarrhea, tiredness, headaches, and stomach problems such as nausea, vomiting, stomach pain, or not feeling like eating. Even if you feel bad, keep taking all your medicines until your health worker tells you to change or stop.

Some serious side effects are signs that one of the medicines needs to be changed. Serious side effects include tingling or burning feelings in the hands and feet, fever, rashes, yellow eyes, tiredness along with shortness of breath, anemia and other blood problems, and liver problems. If you have serious side effects, see a health worker right away.

Preventing HIV when a woman is exposed by rape or because of an accident

Midwives or others are sometimes exposed to HIV while doing health work. For example, someone might stick herself with a needle that was used on someone with HIV, or a person might get infected blood splashed in her eyes or into a cut on her hand. Many women are also exposed to HIV through rape.

ART can be given for 28 days to prevent HIV from spreading because of an accident or rape. Start one of the ART combinations in the box "ART Combinations for women with HIV" on page 494 within 1 to 3 days of exposure—the earlier the better. Other medicines may be available and recommended in your area. Whichever combination you use, the medicines must be taken for 28 days.

ART Combinations for women with HIV (not for children)

Combination 1

Medicines	Dose	Warnings and side effects	Advantages of combination
zidovudine (AZT)	250 to 300 mg 2 times a day	Anemia Low white blood count	• Most widely used and available • Safe for pregnant women
lamivudine (3TC)	150 mg 2 times a day, or 300 mg once a day		
nevirapine (NVP)	200 mg once a day for 14 days, then 200 mg 2 times a day	Skin rash Liver problems	

Combination 2

Medicines	Dose	Warnings and side effects	Advantages of combination
tenofovir (TDF)	300 mg once a day	Can cause kidney problems For use by women over 18 years old	• Fewer side effects • Safe for pregnant women • Combination for women with HIV and hepatitis B
lamivudine (3TC)	150 mg 2 times a day, or 300 mg once a day		
nevirapine (NVP)	200 mg once a day for 14 days, then 200 mg 2 times a day	Skin rash Liver problems	

Combination 3

Medicines	Dose	Warnings and side effects	Advantages of combination
zidovudine (AZT)	250 to 300 mg 2 times a day	Anemia Low white blood count	• Combination if on rifampicin for TB
lamivudine (3TC)	150 mg 2 times a day, or 300 mg once a day		
efavirenz (EFV)	600 mg once a day	Dizziness, confusion, mood changes Should not be taken in first 3 months of pregnancy; it can cause birth defects	

Combination 4

Medicines	Dose	Warnings and side effects	Advantages of combination
tenofovir (TDF)	300 mg once a day	Can cause kidney problems For use by women over 18 years old	• May be available as one pill, taken once daily • Combination if on rifampicin for TB • Combination for women with HIV and hepatitis B
lamivudine (3TC)	150 mg 2 times a day, or 300 mg once a day		
efavirenz (EFV)	600 mg once a day	Dizziness, confusion, mood changes Should not be taken in first 3 months of pregnancy; it can cause birth defects	

WARNING! Many people still take stavudine (d4T) instead of zidovudine in Combinations 1 and 3. However, stavudine can cause serious side effects with long-term use. Most HIV treatment programs are replacing stavudine with other, safer medicines. If you use stavudine, take the lower dose of 30 mg twice daily.

Preventing HIV in babies

A woman who is already on ART when she becomes pregnant should continue taking it. When her baby is born, he will also need to be given medicine for a few weeks. See below.

Even if a woman with HIV is not taking ART for her own health, ART medicines can be taken during pregnancy and breastfeeding, and given to the baby after birth to prevent HIV from spreading to the baby. Used in this way, the medicines are given for a limited period of time, not life-long like ART. This is sometimes called prevention of mother-to-child transmission.

Medicines are only one part of preventing HIV in a baby. Safer sex during pregnancy, safe birth practices, careful feeding of the baby, and treatment of illnesses in both mother and child are also important to prevent babies from getting HIV.

ART medicines to prevent HIV in babies (mother-to-child transmission)

If the mother is already taking ART, she should continue taking her medicines and also give the baby the medicines listed in Option 2.

If the mother is not taking ART for her own health, she and her baby should take the medicines listed in either Option 1 or Option 2 to prevent HIV from passing to the baby. Find out what is available and recommended in your country.

Option 1

FOR THE MOTHER

During pregnancy, starting as soon as possible from 14 weeks of becoming pregnant

- she should take AZT, 300 mg, 2 times a day.

During labor

- she should take AZT, 600 mg, in a single dose when labor starts.

If she did not take AZT during pregnancy, or took it for less than 4 weeks, she should also take:

- NVP (nevirapine), 200 mg, in a single dose when labor starts, AND
- 3TC (lamivudine), 150 mg, when labor starts, and every 12 hours until the baby is born.

If she is breastfeeding, she should take:

- AZT , 300 mg, 2 times a day for 7 days, AND
- 3TC (lamivudine), 150 mg, 2 times a day for 7 days.

FOR THE BABY

Immediately after birth, give the baby:

- NVP (nevirapine), 2 mg/kg oral suspension (or 6 mg), in a single dose.

If not breastfeeding, the baby should also have:

- AZT, oral suspension, 4 mg/kg, 2 times a day for 6 weeks, OR
- NVP (nevirapine), oral suspension, 2 mg/kg, once a day for 6 weeks.

If breastfeeding, the baby should also have:

- NVP (nevirapine), oral suspension, 2 mg/kg, once a day from birth, until 1 week after all breastfeeding has ended.

Option 2

FOR THE MOTHER

Starting as soon as possible from 14 weeks of becoming pregnant, she should take one of the ART combinations on page 494. She will need to take the medicines every day, until 1 week after all breastfeeding has ended.

FOR THE BABY

Whether or not the baby is breastfeeding, he should be given:

- NVP (nevirapine) oral suspension, 2 mg/kg, once a day for 6 weeks, OR
- AZT, oral suspension, 4 mg/kg, once a day for 6 weeks.

The effects of ART medicines on developing babies during the first 3 months of pregnancy are not well known. Unless the woman is already taking ART medicines for her HIV, it may be better to start giving them after the third month of preganancy. Since the medicines provide protection for a baby against HIV, if possible a breastfeeding mother should continue taking ART medicines the whole time she is breastfeeding.

efavirenz (EFV)

Efavirenz is used in combination with other medicines to treat HIV.

Important: If EFV is given to a person who also taking rifampicin for tuberculosis (TB), a higher dose of EFV may be needed (800 mg instead of 600 mg).

To treat HIV, you must give EFV with other medicines. It is important to take this medicine every day, in the recommended dose.

Side effects: EFV may cause dizziness, confusion, mood changes, and strange dreams. These will usually go away after 2 to 4 weeks. If they do not, or if they get worse, see a health worker.

Seek care immediately for signs of allergy: red or purple areas on the skin, rashes or other spreading skin problems, fever, mental health problems.

Often comes in: capsules of 50 mg, 100 mg, 200 mg; Tablets of 600 mg; oral solution of 150 mg/ 5 ml.

How to use:
For HIV (see p. 494), give 600 mg once a day, along with other medicines.

WARNING: Women in the first 3 months of pregnancy should not take EFV. It can cause birth defects. Women taking EFV who may become pregnant should consider switching to a different ART medicine.

lamivudine (3TC)

Lamivudine is used in combination with other medicines to treat HIV, and to prevent passing HIV to a baby.

Important: To treat HIV, you must give 3TC with other medicines. It is important to take this medicine every day, in the recommended dose.

Side effects: Side effects are rare.

Seek care immediately for belly pain, nausea, vomiting, extreme tiredness with difficulty breathing, or muscle pain.

Often comes in: tablet of 150 mg; oral solution of 50 mg per 5 ml.

How to use:
For HIV (see p. 494), give 150 mg by mouth 2 times a day, or 300 mg once a day, along with other medicines.

To prevent HIV from passing to a baby during birth (see p. 495), give the mother 150 mg as labor starts, every 12 hours during labor, and, if she is breastfeeding, every 12 hours for 7 days after the baby is born.

nevirapine (NVP)

Nevirapine is used in combination with other medicines to treat HIV, and to prevent passing HIV to a baby during birth.

Important: To treat HIV, you must give NVP with other medicines. It is important to take this medicine every day, in the recommended dose. If a woman uses NVP alone to prevent passing HIV to her child in birth, it may not work as well to treat her own HIV later. For fewer allergic reactions, which can be a problem with NVP, give once a day for the first 14 days.

Side effects: Rash, fever, nausea, headache.

Seek care immediately for signs of allergy: red or purple areas on the skin, rashes or other spreading skin problems, fever, yellow skin or eyes, or swollen liver.

Often comes in: tablets of 200 mg; suspension of 50 mg per 5 ml.

How to use:

For HIV (see p. 494), give 200 mg by mouth once a day for 14 days, then give 200 mg 2 times a day, every day.
Also give other medicines.

To prevent HIV from passing to a baby during birth (see p. 495):
For a woman who has not taken medicines for HIV during pregnancy, give 200 mg by mouth when labor begins, along with other medicines.
For any baby born to a woman with HIV, give the baby 2 mg for each kilogram of weight (or 6mg) immediately after the birth. Then give 2 mg/kg to the baby for 6 weeks if the mother is not breastfeeding. If she is breastfeeding, give 2 mg/kg of NVP to the baby until 1 week after breastfeeding has ended.

continued…

nevirapine, *continued*

WARNING: Nevirapine can cause serious problems in the liver. Stop giving this drug if the person has signs of hepatitis (see p. 336). It should never be restarted.

Women with CD4 counts over 250 are more likely to have an allergic reaction to nevirapine. If possible, they should use another ART medicine.

tenofovir (TDF)

Tenofovir is used in combination with other medicines to treat HIV.

Important: To treat HIV, you must give TDF with other medicines. It is important to take this medicine every day in the recommended dose.

Do not give TDF to women who are less than 18 years old.

Side effects: Diarrhea, nausea, vomiting, headaches, weakness.

Often comes in: tablets of 300 mg.

How to use:

For HIV (see p. 494), give 300 mg once a day. You must also give other medicines.

WARNING: Tenofovir can cause kidney problems. Seek care immediately if the person has signs of kidney failure.

zidovudine (ZDV, AZT)

Zidovudine is used in combination with other medicines to treat HIV, and to prevent passing HIV to a baby.

Important: To treat HIV, you must give AZT with other medicines. It is important to take this medicine every day, in the recommended dose.

Side effects: Diarrhea, nausea, belly pain, vomiting. These effects usually get somewhat better after a few weeks.

Seek care immediately for pale skin or other signs of anemia (see page 116).

Often comes in: tablets of 300 mg; capsules of 100 mg, 250 mg; oral solution or syrup of 50 mg per 5 ml; liquid for injection of 10 mg per ml in 20 ml vial.

How to use:

For HIV (see p. 494), give 250 to 300 mg 2 times a day, along with other medicines.

To prevent HIV from passing to a baby during birth: For the mother, give 300 mg, 2 times a day, every day, starting at 14 weeks of pregnancy. At the beginning of labor, give the mother 600 mg, one time only.

If she is breasfeeding her baby, give the mother 300 mg 2 times a day for 7 days, along with 3TC.

For a baby born to a woman with HIV who is not breastfeeding, give 4 mg oral solution for each kilogram of weight (12 mg for a 3 kg baby), by mouth, 2 times a day for 6 weeks. You should also give nevirapine.

continued…

zidovudine, *continued*

WARNING: AZT can cause severe anemia. If testing is available, check the woman's hemoglobin before starting AZT, and regularly while she uses it, especially if you live where there is a lot of malaria.

Do not give AZT with stavudine (d4T).

To learn more

Organizations

These groups provide training, educational materials, or advocacy for midwives and health workers in many parts of the world.

Averting Maternal Death and Disability (AMDD)

Works with developing countries and international agencies to improve access to and quality of emergency obstetric care. AMDD has some training materials available for free on their website.

60 Haven Avenue
New York, NY 10032, USA
fax: (1-212) 544-1933
http://cpmcnet.columbia.edu/dept/sph/popfam/amdd/

Childbirth Graphics

Sells educational tools including books, posters, and models for teaching about pregnancy, birth, and women's health.

WRS Group, Ltd.
PO Box 21207
Waco, TX 76702, USA
tel: (1-800) 299-3366
fax: (1-888) 977-7653
sales@wrsgroup.com
www.childbirthgraphics.com

or

PO Box 1090
Pulborough, West Sussex
RH20 4YY, UK
tel: (44-1903) 74-5444
fax: (44-1903) 74-0716
edwardchurch@wrsgroup.com

International Confederation of Midwives

An organization of midwives and midwifery groups from around the world. Organizes international conferences for midwives and helps organize smaller, local conferences too.

Eisenhowerlaan 138
2517 KN The Hague, The Netherlands
tel: (31-70) 306-0520
fax: (31-70) 355-5651
info@internationalmidwives.org
www.internationalmidwives.org

International Planned Parenthood Federation (IPPF)

IPPF promotes and supports family planning activities worldwide. They also publish information on all aspects of family planning. IPPF has offices around the world. For more information or to find a local office, contact:

Regent's College, Inner Circle
Regent's Park, London NW1 4NS, UK
tel: (44-171) 487-7900
fax: (44-171) 487-7950
info@ippf.org
www.ippf.org

Ipas

Works to prevent death and injury from unsafe abortion. Creates and distributes training materials, MVA syringes and cannula, and other equipment. Ipas has offices in many countries around the world. For information or to find a local office, contact:

PO Box 5027
Chapel Hill, NC 27516, USA
tel: (1-919) 967-7052
fax: (1-919) 929-0258
ipas@ipas.org
www.ipas.org

Marie Stopes International

Provides information and services for sexual health to people around the world. To find a local office, contact:

153-157 Cleveland Street
London W1T 6QW, UK
tel : (44-0207) 574-7400
fax: (44-0207) 574-7417
info@mariestopes.org.uk
www.mariestopes.org.uk

PAC Consortium

A group of agencies that are working to inform health workers and the public about health problems caused by unsafe abortion, and to promote postabortion care. The PAC Consortium also releases a newsletter 2 times a year in Arabic, French, English, Portuguese, Russian, and Spanish.

The CATALYST Consortium
1201 Connecticut Ave NW, Suite 50
Washington, DC 20036, USA
tel: (1-202) 775-1977
info@pac-consortium.org
www.pac-consortium.org

PATH

Creates simple health care tools that are affordable and easy to use, and helps to improve local health systems around the world. Some of the tools they have created include simple test kits for HIV and other STIs and illnesses, easy-to-use scales, delivery kits, and syringes that can only be used one time.

1455 NW Leary Way
Seattle, WA 98107, USA
tel: (1-206) 285-3500
fax: (1-206) 285-6619
info@path.org
www.path.org

Pathfinder International

Works with local governments and organizations to make family planning and women's health services available by giving training and helping to create health care systems.

9 Galen Street, Suite 217
Watertown, MA 02472, USA
tel: (1-617) 924-7200
fax: (1-617) 924-3833
information@pathfind.org
www.pathfind.org

Regional Prevention of Maternal Mortality Network (RPMM)

A network of doctors, midwives, and others working to prevent maternal mortality in sub-Saharan Africa. This group focuses on making emergency obstetric care easier to access and use.

PO Box 1177
Mamprobi
Accra, Ghana
tel: (233-21) 76-3284
fax: (233-21) 76-3285
rpmm4ak@africaonline.com.gh
www.rpmm.org

Teaching-aids at Low Cost (TALC)

Gives away books, videos, teaching materials, and simple health tools, for free or at low cost.

PO Box 49, St Albans,
Herts, AL1 5TX, UK
tel: (44-0172) 785-3869
fax: (44-0172) 784-6852
info@talcuk.org
www.talcuk.org

White Ribbon Alliance for Safe Motherhood

A network of organizations and people who are working to prevent death and injury of women during pregnancy and birth. There are local offices in many parts of the world.

1050 17th Street, N.W., Suite 1000
Washington, DC 20036, USA
tel: (1-202) 775-9680
fax: (1-202) 775-9699
wra2@whiteribbonalliance.org
www.whiteribbonalliance.com

Books and more

This is a short list of books and other materials that might be useful for learning:

The Childbirth Picture Book

F. Hoskin, WIN News

187 Grant Street
Lexington, MA 02420, USA
winnews@igc.org
www.feminist.com/win.htm

Available in English, Spanish, French, Arabic, and Somali.

Healing Passage, A Midwife's Guide to the Care and Repair of the Tissues Involved in Birth

A. Frye, Labrys Press

7528 NE Oregon Street
Portland, OR 97213, USA
tel: (1-503) 255-3378
fax: (1-503) 255-1474
anne@midwiferybooks.com
www.midwiferybooks.com

Healthy Women, Healthy Mothers: An Information Guide

A. Arkutu, Family Care International, Inc.

588 Broadway, Suite 503
New York, NY 10012, USA
tel: (1-212) 941-5300
fax: (1-212) 941-5563
info@familycareintl.org
www.familycareintl.org

Available in English and French.

Heart and Hands: A Midwives Guide to Pregnancy and Birth

E. Davis, Celestial Arts/ Crown Publishing Group

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Technical and medical words

In this book we use simple and clear words as often as we can. We hope this makes the book easy to use for most people. Sometimes we use a simple word where most medical workers would usually use a more technical one, but it can be very helpful to know the technical word too. This is a short list of some of the words you might hear in a midwifery training program or in a hospital or medical center. If you want to know the meaning of a word that you do not see on this list, it may be explained somewhere in the rest of the book. Check the index, starting on page 505.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

amniotic fluid The liquid that surrounds the baby inside the womb.

anesthesia Medicine used to keep a person from feeling pain from a medical procedure. General anesthesia is a medicine given to make someone sleep during surgery. Local anesthesia is injected into the body to numb a small area.

bacteria Germs that cause infections. Bacteria can usually be killed with antibiotic medicines.

bilirubin A chemical in the bile or blood. When too much bilirubin builds up, it causes jaundice (the skin turns yellow).

biopsy When a piece of tissue or fluid is taken from part of the body and is examined in a laboratory to see if it is healthy or diseased.

bowel The end of the large intestine, near the anus where stool comes out of the body.

circulation Blood flowing through the heart, arteries, and veins.

complication A problem or thing that goes wrong.

contagious When an illness can pass from one person to another. These illnesses are caused by bacteria or viruses.

ectopic pregnancy (pregnancy in the tubes) A pregnancy that grows in the fallopian tubes or anywhere outside the womb.

embryo The beginning stage of a baby early in pregnancy, from the second to the eighth week.

engagement (engaged) When a baby's head is deep in the pelvis soon before birth.

engorgement (engorged) When a part of the body is filled with fluid, often blood. Breasts engorged with milk are common after birth and can be very painful.

fallopian tubes (tubes) The tubes that connect the ovaries to the womb. A woman's eggs travel through the tubes.

fertilization (conception) When a woman's egg joins with a man's sperm — the beginning of pregnancy.

forceps Medical tools for pulling. A small forceps can be used to hold tissues or sewing needles. Obstetrical forceps are used to help bring a baby out.

genitals The inner and outer parts of the body that are used in sex and producing babies — including the labia and vagina, and the penis and testicles.

hemorrhage Severe bleeding.

hemostat A medical tool for clamping. Hemostats can be used to clamp the cord so that blood does not come out of it when it is cut.

High Level Disinfection (HLD) A way to remove most germs from an instrument or tool, very similar to sterilization. In this book, whenever we say a tool should be sterilized, we actually mean it can be sterile or HLD.

intestine A long, winding tube that carries food from the stomach and then waste to the anus.

invasive procedure A medical procedure deep inside the body or that cuts the skin.

kidneys Two large organs in the lower back that make urine by cleaning waste from the blood.

ligaments Strong fibers in a person's body that help hold muscles and bones in place.

membranes The bag that holds the baby and waters (amniotic fluid) during pregnancy.

menstrual cycle The time and changes in a woman's body from the beginning of one monthly bleeding to the beginning of the next. This includes bleeding, some days when a woman is not fertile, and the days when the lining of her womb grows to prepare for a possible pregnancy and an egg is released from her ovary.

menstruation (monthly bleeding) When bloody fluid comes out of a woman's womb and out of her vagina. It happens about once a month and lasts a few days.

midwife A person who cares for a woman's health needs, especially during pregnancy and birth.

obstetrics The branch of medicine that deals with the care of women during pregnancy and childbirth.

premature Before full development. A baby is premature if born before 37 weeks of pregnancy.

prolapse When part of the body drops or falls. When the cord comes out before the baby is born it is a prolapsed cord.

Rh factor A blood type that can cause problems in pregnancy. A person with a certain protein in her blood is said to have "Rh+" blood. People who do not have this protein have "Rh-" blood. If a woman with Rh- blood is pregnant, and her baby has Rh+ blood (this can only happen if the father has Rh+ blood), her body can produce antibodies that fight any future pregnancies she has. This can cause miscarriages or other problems in those future pregnancies. If a woman has a miscarriage or stillbirth, and does not know why, you could have a laboratory check her blood. If she is Rh-, she may be able to get a medicine called Rho(D) Immune Globulin during her next pregnancy to protect her baby from problems.

scrub Washing the hands, fingernails, and forearms carefully and thoroughly for several minutes to remove most germs.

sterilize To kill or remove all the germs on something. Tools must be sterile or HLD to be safely used for invasive medical procedures.

tissue The material that makes up the muscles, fat, and organs of the body.

uterus (womb) The organ in the body where monthly bleeding comes from and where a baby grows during pregnancy.

virus A germ that can cause infections and sicknesses. Viruses cannot be killed with antibiotics, but there are some new drugs that can help fight some viral infections.

Index

This index lists topics covered in the book in the order of the alphabet.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Page numbers in **bold** tell you where to find the main reference. Medicines included in the green medicine pages are listed in the health problem index on page 472.

A

Abortion, 92, **401–415**
Also see Manual vacuum aspiration (MVA); Miscarriage
bleeding too much after, **406**, **412–414**
deciding to help after, **402–403**
emergency care for problems, **406–414**
emotional support after, **403–404**
finding care after, **401–403**
helping a woman after, **401–415**
incomplete, **407–408**, 417, **419**
infection after, **406**, **409–411**, **419**
internal injury from, **413**
IUD dangers after, 390
physical care after, **404–405**
preventing unsafe abortions, **415**
problems from, **401–405**
safe versus unsafe, **92**, **402**
shock after, **413**, **414**
tetanus (lockjaw) after, **411**
warning signs versus healthy signs, **404**
Abruption. *See* Detached placenta (abruption)
Abscess (lump) in breast, 288
Abusive partners, 105
Aches and pains. *See* Pain
Active labor, 167, 188
Acupressure
to encourage labor, **192–193**
to help with pain in labor, 193
for nausea relief, 74
Addiction, 46. *Also see* Drugs
After birth. *See* First few hours after birth; First weeks after birth
Afterbirth. *See* Placenta
Age
pregnancy problems and, **90**
very young mothers, 22, 105
AIDS. *See* HIV
Albusticks, 126
Alcohol (drinking)
avoiding during pregnancy or breastfeeding, 30, 46
infertility and, 31
small baby and, 134
for sterilizing tools, 64
Alcohol (medical)
hand cleaner with glycerine and, **54**
soaking thermometers in, 65
for sterilizing tools, 64
washing floor with, 57
Allergies
to copper, IUDs and, 390
to injections, 345
to medicine, **103**, **465–466**
Aminoglycosides, 471
Ammonia, washing floor with, 57
Amniotic waters. *See* Bag of waters
Anemia
hookworm and malaria as causes, 37
iron for preventing, 36
IUD dangers and, 390
with joint pain, 81
in past pregnancies, 93
signs of, 78, **116**
treating, 116
Anger during pregnancy, 82
Angry cat exercise, 80, 190
Animal milk. *See* Bottle feeding
Animal products, inexpensive, 42
Ante-natal or ante-partum checkups. *See* Prenatal checkups
Antibiotics, 464, **470–471**
Antiretrovirals, *See* ART
Antiseptic for MVA, 421
Anus
bulging during contractions, 195
checking baby's, **263**
baby's closed or missing, 263
illustrated, 27, 376
testing for torn muscle around, 357
Anxiety. *See* Fear; Tension
Appendicitis, 114
Arms, checking baby's, 262
ART (Anti-Retroviral Therapy), 99, 101, 153, 163, 276, 293, 335, **492–498**

B

Baby, **130–144**, **240–245**, **252–267**
Also see Heartbeat (baby); Position of the baby; Signs (baby)
ART for, **494**
birth defects, 45, 46, 95, **266–267**
breaking collar bone, 213
breathing, checking, **241**, **254**, **262**
caring for, during 3rd stage, **240–245**
checking after birth, 213, **240–245**, **252–267**
checking in womb, **130–144**
chlamydia and, **324**
clearing nose and mouth, **208–209,** 213–214
color, **244–245**, **266**, **279**
crowning during 2nd stage, 197
early birth, 83, 88, 94, **221**, **292**
feeling inside the womb, 87
first hours after birth, **252–267**
first weeks after birth, **274–279**
general appearance, **253–254**
gonorrhea and, **324**
heart sounds, **262**
helping breastfeed, **245**
HIV and, 101, 276, 494
holding when breastfeeding, **282–283**
how it grows in pregnancy, **30**
how it moves through the vagina, **197–198**
keeping warm and dry, **240**, **255**
kicking and other movements, 80, 87, 134, 138
large, 254, **258**
large in past birth, 94, 115
length, 259
measuring the womb, 90, **130–135**
medical help for sick babies, **437**
model for teaching about pregnancy, **459**, **460**
muscle tone, **244**
oxygen for, 241
position of, **135–144**, **170–171**, **190–191**, **215–219**

reflexes, **244**
rescue breathing, **242–243**
shoulders, delivering, **210–213**
sick or dead in past birth, 95
small, **221**, 254, **256–257**, **292**
small in past birth, 94
weight, **256–258**
Back
checking baby's, **265**
lower back deformity in mother, 97
lying on during labor, avoiding, 162, 200
pains, **80, 113–114**
Bacterial vaginosis (BV or gardnerella), 328
Bag of waters, 174–177
baby floating in, 30
breaking as sign of labor starting, **151**
breaks early, medical help needed for, 106
checking if broken, **174**
color of waters, **174–175**, 208
pelvic exam and, 374
stool in waters, 174–175, 209, **213**
time between labor start and breaking of, **175–176**
tool for breaking, 435
too little water, 134
too much water, **133**
Baking, sterilizing tools by, 61
Barbiturates, 46
BCG vaccination, 267
Beam scale, homemade, 445–446
Beans, 35, 41
Bed nets, 98
Bedding, 58, 98, **163**
Beliefs, harmful, 39–40
Belly
baby drops lower in, **149**
checking baby's, **263**
cleaning after birth, **247**
cramps in early pregnancy, 79
growing larger, 86
nausea (morning sickness), **73–74**, 86, **110–111**
pain severe in, 109
pain sudden, 79
pain, sudden, steady, and severe, 125
pain, warning signs versus healthy signs, **113–114**
pressure to stop bleeding after birth, **237**
pushing on, avoiding during birth, **205**
Bilirubin, 279
Bimanual (2-hand) pelvic exam, 373, **384–387**
Birth. *See* Labor and birth
Birth box (model for teaching), 461
Birth by operation. *See* Cesarean surgery
Birth control. *See* Family planning
Birth control pills, 307–308
Birth defects, 266–267
alcohol drinking by mother and, 46
causes of, **267**
checking baby for, **266**
helping parents of children with, **266–267**
medicines and, 45
in past pregnancies, 95
rubella (German measles) and, 45, 95
Birth of the placenta (stage 3 of labor), 223–245
Also see Labor and birth; Signs (mother in labor, birth, and after)
"active management" of, **225**
baby has breathing problems, **240–241**
baby not breathing, **241–243**
bleeding after placenta is born, **236–239**
bleeding before placenta is born, **226**
bleeding, dangers of, **224–239**
caring for the baby, **240–245**
checking the baby's health, **240–245**
checking the physical signs of mother, 223
checking the placenta and cord, **233–234**
death of baby and, **243**
guiding the placenta out by the cord, **228–229**
helping the mother push, **227–231**
helping the womb contract after, 224, **236–238**
if no helper is available, 223
medicines for, 224, 225, **228**, **231**, **233**, 237
overview, 146, **157**
piece of placenta left inside womb, **234–235**
rubbing the womb after, **224**, 236
shock (signs and treatment), **239**
signs that the placenta has separated, **226–227**
taking out the placenta by hand, **230–231**
torn vagina, **239**
womb comes out with the placenta, **232–233**
Birth pants (model for teaching), 461
Bladder infection, 128–129
caring for, **129**
fever from, 120
labor and, 179
pregnancy problems and, 97
preventing, 129
signs of, 77, **128**
Bleach
disinfecting solution using, **57**, 59
never mixing with ammonia, 57
for sterilizing tools, 59, 64
washing floor with, 57
Bleeding
Also see Blood; Monthly bleeding (menstruation)
after abortion or miscarriage, **406**, **412–414**
after birth, **224–239**
after female genital cutting (circumcision), **368**
after placenta is born, **236–239**
bladder of mother full and, 352
blood pressure drops during labor and, 180
with constant pain, late in pregnancy, **114**
with cramps during first 6 months, 112
detached placenta (abruption) and, **114**, 180, **184**, **205**, 219, 354
during labor, **183**, **205**
in early pregnancy, 79
episiotomy and, 354
first weeks after birth, **270**
gums, 117
heavy, after abortion or miscarriage, **406**, **412–414**
heavy, before placenta is born, **226**
heavy, in past pregnancies, 95
heavy, medical help needed for, 106
heavy, preventing after birth, **248**
high blood pressure and, 122
IV for blood loss, **350–351**
with no pain, 112, **183**
show (mucus tinged with blood), **150–151**
spotting, 79, 112
swollen veins around genitals and, 76
torn vagina, **239**
twins and, 219, 220, **221**

from vagina (warning sign), 109, **112**, **183**
warning signs versus healthy signs, **112**
Blindness
genital herpes and, 332
preventing in baby, **260–261**, 324
Blood
Also see Bleeding
disposing of, 67
as food, 42
germs in, 49, 50
HIV spread and, 99
loss, IV for, **350–351**
preventing infection from, 50, 51
transfusion (giving through an IV), **436**
in urine, 128
Blood blister (hematoma)
in baby's head, **260**
in vagina after birth, **248–249**
Blood clot in leg (warning signs), 81, **273**
Blood pressure
Also see High blood pressure
checking during labor, **180–182**
checking during pregnancy, **122–124**
drops during labor, 180
equipment, 122
goes up during labor, **180–181**
shock and drop in, **239**
warning signs, **122**, **180–181**
Blood sugar disease. *See* Diabetes (blood sugar disease)
Blood tests
for anemia, 116
for diabetes, 115
lab tests, **434**
Blue color (baby), 244–245, **266**
Blurred vision (warning sign), 109, 125
Body changes in pregnancy. *See* Changes in pregnancy
Body wastes, disposing of, 67
Boiling
gloves, 66
sterilizing tools by, **62**
Bones, pelvic. *See* Pelvis; Pubic bone
Bottle feeding
Also see Breastfeeding
breastfeeding hampered by, 286
breastfeeding versus, 41
dangers of, **276**, **281**
with formula made from animal milk, **295**
with formula, safety and, **294**, **295**
with milk removed from breasts, **286**
Bowels
Also see Stool
constipation, 36, **76–77**
enemas, avoiding during pregnancy, 77
piles (hemorrhoids), **77**
Brain infection (meningitis) in baby, 278
Breaking baby's collar bone, 213
Breaking of waters
checking if broken, **174**
color of waters, **174–175**
early, medical help needed for, 106
pelvic exam and, 374
as sign of labor starting, **151**
stool in waters, 174–175
time between labor start and, **175–176**
tools at hospitals or medical centers, **435**
Breastfeeding, 281–295
Also see Bottle feeding
advantages of, **281**
alternatives to, **294–295**
antibiotics and, 471
breast infection (mastitis), **289**
cleft lip or cleft palate and, 261
colostrum (first milk), 72, **245**, 283
common difficulties, **286–291**
during pregnancy, **292**
early baby and, **292**
eating during, **283**
to encourage labor for second twin, 220
encouraging the baby, **275**
engorged (swollen) breasts and, **288**
extra food needed for, 34
family planning and, 301, 306, **312**
fear of not having enough milk, **286–287,** 306
feeding milk that has been removed, **286**
flat or inverted nipples and, **287**
fortified milks versus, 41
gas pains (colic) in baby, **291**
helping after birth, **252**
helping the baby, **245**
to help the womb contract, 236
HIV and, 287, **293–294**
HIV spread and, 99, 287
how to breastfeed, **282–283**
how to hold the baby, **282**
large baby and, 254, 258
medicines and, 45, **292**, 463, 471
nipples cracked or sore, **290**
nutrition provided by, 41
painful lump (abscess) in breast, **288**
heating breast milk to kill HIV, 294
removing milk from breasts, **284–285**
saving milk, **285**
sharing breast milk, **286**
sick mother and, **292**
small baby and, 254, 257, **292**
things to avoid during, **45–47**
thrush (yeast infection), **290**
twins and, **291**
weak baby and, **254**
when to feed, 282
work outside the home and, **284–286**
Breasts
growing larger, 87
infection (mastitis), **289**
leaking, 76
painful lump (abscess) in, **288**
removing milk from, **284–285**
swollen (engorged), 76, **288**
Breathing (baby)
checking, **241**, **254**, **262**
clearing baby's nose and mouth, **208–210**
not breathing, **241–243**
rate, checking, **254**
rescue breathing, **242–243**
signs of problems, **241**, **254**, **262**
Breathing (mother)
difficulty, anemia and, 116
fast and deep, 159
shortness of breath, **78,** 103, **114**
in stage 1 (opening), **170**
in stage 2 (pushing), **201**
Breech baby (bottom down), 215–219
checking for, **137–138**
complete breech (folded legs), 215, **216–218**
dangers of breech births, **215**
dangers of turning, 369
delivering complete or frank breech, **216–218**
delivering footling breech, **218–219**
difficulty of childbirth and, 137
episiotomy for, **354–355**
footling breech (feet first), 215, **218–219**
frank breech (straight legs), 215, **216–218**
getting the baby to turn, 142
home birth and, 143
medical help needed for, **190**, 215, 218
turning, **369–371**
twins and, 219
what to do about, **142–143**

Bulb syringe, 66, 209**, 214**
Burning plastic wastes, avoiding, 68
Burning sensations
in feet, 117
in stomach or between breasts (heartburn), **74–75**
while urinating, 77, 128
in vagina, 77
Burying wastes, **67–69**, 235
Buttocks down position. *See* Breech baby (bottom down)
BV (bacterial vaginosis or gardnerella), 328

C

Calcium, **37–38**, 74, 81
Calculator for due date, 527
Calendar for figuring due date, 88–89
Cancer
of the cervix, **383**
Pap test for, 379, **381–383**
Candida. *See* Yeast infection
Cannulas. *See* Manual vacuum aspiration (MVA)
Capsules. *See* Medicines
Caput on baby's head, 260
Carbohydrates (main foods), 34, 35
Care in pregnancy. *See* Health care in pregnancy
Cars or transportation, 10, **106–107**, **164**, **438**
Castor oil drink for starting labor, **343**
Catheters, 249, **352–353**
Causes of health problems
finding, **13–15**
root causes, **21–25**
CD4 test, 335, **492**
Cephalosporins, 471
Cervix
Also see Opening (stage 1 of labor)
bimanual (2-hand) exam, **384–385**
cancer of, **383**
illustrated, 28
mucus plugging, 28, 150, 155
numbing during MVA, **424**
opening (stage 1 of labor), 146, **155–156**, **167–193**
Pap test for infections or cancer, 379, **381–383**
placenta covering (placenta previa), 112, 183, 374
pushing before fully open, avoiding, **186**, **196**
size when ready for birth, **156**
softening of, 155
speculum exam, **378**
vinegar test for HPV, 379, **380**
visible at vaginal opening after birth, **249**
Cesarean surgery (birth by operation)
dangers of, 436
described, **96**
HIV and, 436
need for, 136, 141, 142, 143, 177, 191, 436
overuse of, 436
in past birth, **96**
Chalk cravings, 74
Chancroid, 330, **331**
Change of life (menopause), **31**, 86
Changes in pregnancy. 73–83
discomforts and pains, **76–81**
in eating and digestion, **73–75**
feelings and emotions, **82–83**
how the baby grows, **30**
how women get pregnant, **29**
sexual and reproductive parts, **27–28**
in sleeping, **75**
Checkups. *See* Prenatal checkups; Tests
Chemicals
Also see Drugs; Medicines
avoiding during pregnancy or breastfeeding, 47
infertility and, 31
for sterilizing equipment, **63–64**
too dangerous to use, 64
Chicken, 42
Children, number of, 90–91
Chlamydia, 50, **323–325**
Chlorine bleach. *See* Bleach
Cholera, 50
Chromic gut sutures, 358
Cigarettes. *See* Tobacco
Circumcision (female). *See* Female genital cutting (circumcision or FGC)
Circumcision (male), **264**
Clamping the cord, 214. *Also see* Cutting the cord
Clap, the (gonorrhea), 50, **323–325**
Clay cravings, 74
Cleanliness
Also see Sterilizing equipment
before and during birth, **153**,168
cleaning bedding, **58**
cleaning mother after birth, **247**
cleaning the space, **57**, 150
cord stump and, 215
during pregnancy, 42–43
first weeks after birth, 269
for preventing infection, 52
tooth and mouth care, 43
underpadding for birth on floor, 58
washing hands, **53–54**, **153**, 168
Cleft lip (harelip) or cleft palate, **261–262**
Clinics. *See* Hospital or medical center
Clitoris, 27, 376
Cloth models for teaching
vagina, **452–453**
womb, **450–451**, **455–457**
Clot in leg (warning signs), 81, **273**
Cocaine, 46
Coffee, 31, 81
Colic (gas pains), 291
Collar bone, breaking baby's, 213
Color (baby), 244–245**,** 266**,** 279
Color (mother)
dark patches on skin (mask of pregnancy), 79
legs red, **273**
pale inside of eyelids, fingernails, and gums, 116
pale, shock and, **239**
purple line between buttocks, 195
purple spots on skin, 79
waters, **174–175**, 208
Colostrum (first milk), 76, **245**, 283
Combination medicines, avoiding, **464**
Community
Also see Family; Partners
changes to prevent health problems, **23–25**
family planning and, **318–319**
helper for birth, 151
people who affect a woman's health, **8–9**
preventing unsafe abortions, **415**
rituals and practices honoring pregnancy, 44
sexually transmitted infections (STIs) and, **337**
sharing what you know with, **4–6**
transport plan for medical help, 10, **106–107**, **164,** 438
women's health affected by, **8–9**
working together to save lives, **10**
Complete breech (folded legs), 215, **216–218**. *Also see* Breech baby (bottom down)
Condoms
for family planning, 301, **302–303**
HIV and, 99, 100, 334
for sex during pregnancy, 83
using, **303**
for women, 301, **302**, **303**

Confidentiality, 7, 101
Constipation
defined, 76
during pregnancy, **76–77**
enemas for, avoiding during pregnancy, 76
from iron pills, 36
laxatives or purgatives for, avoiding, 77
piles (hemorrhoids) and, 77
preventing or treating, 76
Contraceptives, 307–308, **999**
Contraceptive sponge method of family planning, 317
Contractions
Also see Cramps (womb); Labor and birth; Pushing (stage 2 of labor)
cervix opened by, 156
easing pain of, 169–170, 187–188, 193
pain between, 184
practice contractions, 150, 155
resting between, **161**
signs that stage 2 is near or starting, **195**
in stage 1 of labor, 167
stronger and more frequent, **149–150**
supporting the mother, **169–170**
Conversation. *See* Talking
Convulsions (fits)
dangers of, 181
during labor, **181–182**
medicines for, **181–182**
in past pregnancies, 93
pre-eclampsia and, 20, 93, 125-127, **181–182**
what to do during, **181**
***Copper T* IUD**. *See* Intrauterine devices (IUDs)
Copying patterns for models, 447
Cord
around baby's neck, **209**
baby's pulse in, 139, 177
breech baby and, 216, 218
caring for baby's stump, 277
checking the end of, **234**
coming in front of baby (prolapsed), **176–177**, 208, 218, 219, 354
guiding the placenta out by, **228–229**
how to cut, **214–215**
illustrated, 30
infection, signs in baby, **277**
model for teaching about pregnancy, **458–459**, **460**
pulling on, dangers of, 228
pulse lacking in, 177
razor blades for cutting, 65
signs that the placenta has separated, 227
stump, keeping clean and dry, 215
twins and, 220
when to cut, 157, **214**
Cotrimoxazole, for people with HIV, 101, 335, **478**
Cracked nipples, 290
Cramps in legs, 80–81
Cramps (womb)
Also see Contractions
bleeding with, during first 6 months, 112
in early pregnancy, **79**
warning signs, 79, 112, 113
Cravings for foods, 74
Creams. *See* Medicines
Cretinism. *See* Hypothyroidism
Crowning, 197
Crying during pregnancy, 82
C-section. *See* Cesarean surgery (birth by operation)
Cutting the cord
Also see Cord
around baby's neck, **210**
how to cut, **214–215**
razor blades for, 65
stump, keeping clean and dry, 215
twins and, 220
when to cut, 157, **214**
Cutting the opening of the vagina. *See* Episiotomy (cutting the vaginal opening)

D

***Dalkon Shield* IUD, removing**, 399
D&C, 92. *Also see* Abortion
Dark patches on skin, 79
Date birth expected. *See* Due date
Death of baby
helping the mother and family, 135, **243**
in past pregnancies, 95, 115
rubella (German measles) and, 45
womb growing too slowly and, **134–135**
Deformity
birth defects, 45, 46, 95, **266–267**
of mother's hips or lower back, 97
Dehydration
after birth, 251
bottle feeding and, **275**
defined, 159
drinking during labor, **159–160**
helping baby, **275**
if mother cannot drink, 159
rehydration drink, **159–160**
warning signs (baby), **275**
warning signs (mother), 111, 120, **159**, 178
Delayed labor. *See* Encouraging labor; Late labor
Delivering
Also see Birth of the placenta (stage 3 of labor); Labor and birth; Opening (stage 1 of labor); Pushing (stage 2 of labor)
baby's body and giving baby to mother, **214**
breech baby (complete or frank), **216–218**
breech baby (footling), **218–219**
shoulders of baby, **211–213**
twins, **219–221**
Dental care, 43
Depression, 82, 95, 121, 274
Detached placenta (abruption)
during pregnancy, **114**
episiotomy and, **354–355**
home birth and, 205
medical help needed for, 114, 184, 205
pre-eclampsia and, 180
pushing on mother's belly and, 205
signs of, **114**, **184**, **205**
twins and, 219
Diabetes (blood sugar disease)
helping a woman with, 115
in a baby, 254, 258
infertility and, 31
in past pregnancies, 93
pregnancy problems and, 97
test for, 115
warning signs, 93, **115**, 133
Diaphragms, 301, **304**
Diarrhea (loose stool)
before labor, 150
bottle feeding and, **275**
from castor oil drink, 343
germs and, 50
vomiting with, 111
Diet. *See* Bottle feeding; Breastfeeding; Eating and food
Dilation and curettage, 92. *Also see* Abortion
Dilation of cervix. *See* Opening (stage 1 of labor)
Dirt. *See* Cleanliness
Dirt cravings, 74
Disabilities
affecting thinking or the brain, 45, 46
alcohol drinking by mother and, 46

birth defects, 45, 46, 95, **266–267**
helping parents of children with, **266–267**
medicines and, 45
rubella (German measles) and, 45
Disabled Village Children, 267
Discharge (wetness from vagina)
during pregnancy, **77**
germs in, 50
normal versus infected, 323
sexually transmitted infections (STIs), **323–328**
show versus, 151
yeast infection, 101, 115, **326–327**
Disease. *See* Illness; Infections; *specific diseases*
Disinfectants, 57, 59, 64
Disposing of wastes safely, **67–69**
Dizziness
late in pregnancy, 81
shock and, **239**
as warning sign, 81, 109, 116
Doctors
Also see Hospital or medical center
baby taken from mother by, 240
bag of waters broken by, 435
cesarean surgery overused by, 436
checking baby with 2-vessel cord, 234
nutritional advice from, 250
unnecessary practices by, 433, **441**
working with, **438–440**
Dopplers, **434**
Double vision, 125
Dreams, strange, 82
Drinking alcohol
avoiding during pregnancy or breastfeeding, 46
infertility and, 31
small baby and, 134
Drinking liquids. *See* Water and liquids
Drip, the (gonorrhea), 50, **323–325**
Drops. *See* Medicines
Drug resistance, **464**
Drugs
Also see Medicines
avoiding during pregnancy or breastfeeding, 46
small baby and, 134
Due date
Also see Early birth
delayed labor, 88
predicting, **88–89**, 130, **133**
tool for calculating, **527**,
Duration of pregnancy. *See* Length of pregnancy

E

Early birth, 221
Also see Small baby
breastfeeding and, **292**
medical help needed for, 221
more than 5 weeks early, **221**
normal and safe range, 88
not starting after breaking of waters, 176
in past pregnancies, 94
sex during pregnancy and, 83
twins and, 219
Early end to pregnancy. *See* Abortion; Miscarriage
Ears
checking baby's, **260**
cleft lip or cleft palate and infections, 262
Eating and food, 33–42, **73–75**
Also see Bottle feeding; Breastfeeding; Water and liquids
after birth, **250**
avoiding foods, dangers of, 40
bladder infection and, 129
breastfeeding and, **283**
calcium-containing foods, 38
changes during pregnancy, **73–75**
cooking food, 35, 36, 39, 42
cravings for foods, **74**
during labor, 160
eating enough, 33, **34**, 39
eating well with little money, **41–42**
feeding men first, 9
first weeks after birth, 269
folic acid-containing foods, 37
girls' needs equal to boys', 22, 39
glow foods (vitamins and minerals), 34, 35, **36–39**
go foods (fats, oils, and sugar), 34, 35
grow foods (proteins), 34, 35, 250
for a healthy pregnancy, **33–42**
high blood pressure and, 124–125
ideas affecting health, **39–40**
iodine-containing foods, 38
iron-containing foods, 36
main foods (carbohydrates), 34, 35
nausea and food dislikes, **73–74**
packaged and processed foods, 39
poor nutrition, 33, **117**, 134
talking to women about food, **34–39**
tooth protection and diet, 43
variety of foods, 33, **34–35**, 40
vitamin A-containing foods, 39
vitamins and minerals to eat every day, **36–39**
womb growing too slowly and, 134
women's needs equal to men's, 9
Eclampsia. *See* Convulsions (fits)
Edema. *See* Swelling
Education. *See* Learning by midwives; Teaching
Egg (human), 29
Eggs (fowl), 42
Emergencies
Also see Hospital or medical center; Medical help; Signs (baby); Signs (mother during pregnancy); Signs (mother in labor, birth, and after)
from abortion or miscarriage, **406–414**
being ready for, in labor and birth, **163–164**
contraception for, **316**
from female genital cutting (circumcision or FGC), **368–369**
tools at hospitals or medical centers, **435–436**
working with hospitals and doctors, **438–441**
Emotions and feelings
Also see specific feelings
after birth, giving support for, **274**
anger or irritability, 82
changes during pregnancy, **82–83**
death of baby and, 135, **243**
depression, 82, 95, 121, **274**
difficulty sleeping and, 75
menopause and, 31
mother not interested in her baby, **251**
pelvic exam and, **375**
signs of labor starting soon, **150**
support after early end to pregnancy, **403–404**
worry and fear, 82
Emptying the womb. *See* Manual vacuum aspiration (MVA)
Encouraging labor, 191–193, **341–344**
Also see Long labor
avoiding, if medical help needed, 191
castor oil drink for, **343**
dangers of methods for, **341**
enemas for, **342–343**
medicines for, 175, 191, **341**

plant medicines for, **344**
second baby of twins and, 220, 221
signs of need for, **341**
things to avoid, 191, 205
time after breaking of waters and, **175–176**
Ending pregnancy. *See* Abortion; Miscarriage
Enemas (giving rectal fluids)
avoiding during pregnancy, 77
dangers of, 342
for starting labor, **342–343**
uses for, 342
Energy
Also see Anemia; Weakness
foods for, 35
sleepiness during pregnancy, 75, 86
tiredness, 93, 116, **159**
Engorged breasts, 76, **288**
Enjoyment
of pregnancy, 44
working for, **11**
Episiotomy (cutting the vaginal opening), 354–355
circumcision scar and, 206, 354
dangers of, **354**
how to do, **354–355**
sewing after, **358–366**
times when necessary, 354
Equipment. *See* Sterilizing equipment; Tools and supplies
Ergometrine
dangers if placenta not born yet, 224
to empty the womb after incomplete abortion, 408
to help the womb contract, 224
to stop bleeding from the womb, 231, 232, 237
Estrogen, women who should not use, 306
Ethanol. *See* Alcohol (medical)
Ethyl alcohol
alcohol and glycerine hand cleaner, **54**
soaking thermometers in, 65
Examinations. *See* Prenatal checkups
Exercise during pregnancy, 43–44
Exercises
angry cat, **80**
squeezing (Kegels), **44**
Eyes
blurred vision (mother), 109, 125
checking baby's, **260**
chlamydia or gonorrhea and (baby), **324**
color (baby), **279**
double vision (mother), 125
genital herpes and, 332
preventing blindness (baby), **260–261**, 324
sunken (mother), 159

F

Face
baby coming face first, **190**
swollen in mother (warning sign), 76, 81, 126, 127
Factory chemicals, 47
Fainting or faintness
after birth, 226
during pregnancy, 116
shock and, **239**
Family
Also see Community; Partners
abusive partners, 105
answering questions of, **267**
feeding first, 39
food advice from, 250
helper for birth, 151
as people who affect a woman's health, **8–9**
permission for care from, 107
support from, **105–106**
time alone after birth, **252**
women's health affected by, **8–9**
Family planning
Also see specific methods
choosing a method, **300–317**
community and, **318–319**
emergency contraception, **316**
helping women have more choices, 299
manual vacuum aspiration (MVA) and, 431
methods that do not work, **318**
reasons for, **299**
Fast heartbeat (baby), **173**, 184, **243**, **255**
Fast pulse (mother)
problems indicated by, **121**, **178**
as sign of anemia, 116
as sign of dehydration, 159
as sign of infection, 251
as sign of shock, 239
Fat mother, 115, 118
Fats (go foods), 34, 35
FGC. *See* Female genital cutting (circumcision or FGC)
Fear
during pregnancy, 82
of not having enough milk, **286–287**
pelvic exam and, **375**
Feeding tube, 437
Feelings. *See* Emotions and feelings; *specific feelings*
Feet
burning sensations or numbness, 117
checking baby's, **265**
swollen, 76
Female genital cutting (circumcision or FGC)
caring for woman after, **367–369**
cutting the scar, 206, 354–355, **367**
dangers of, 367
emergency care for, **368–369**
repairing the cut, **367**
warning signs, **368**
Fertility awareness (natural family planning), 312–315
counting days method, **314–315**
mucus method, **313**
other methods compared to, 301
overview, 312–313
Fetoscope, 139, 434
Fever
causes of, 120
checking the baby's temperature, **255–256**
checking the mother's temperature, **119**, **178–179**, **251**
dehydration and, 120, 159, 178
during labor, **178–179**
hot feeling during pregnancy, **78**
in past pregnancies, 95
pregnancy problems and, 97
treating, **120**
as warning sign (mother), 109, **119**, **178**
Fibroids, IUD dangers and, 390
Finger method for measuring the womb, 131–132
First few hours after birth, 247–267
Also see First weeks after birth
answering family's questions, **267**
breathing rate of baby, **254**
checking body of baby, **256–267**
checking mother's genitals for tears and problems, **248–249**
checking physical signs of mother, **247**
cleaning mother's genitals, belly, and legs, **247**
cleaning up, **267**
examining the baby (overview), **252–253**
general appearance of baby, **253–254**
giving BCG immunizations (baby), **267**

heartbeat of baby, **255**
helping mother to eat and drink, **250**
helping mother to urinate, **249**
helping with breastfeeding, **252**
overview, **157**
preventing heavy bleeding (mother), **248**
recording baby's signs, **253**
temperature of baby, **255–256**
watching mother for infection, **251**
watching mother's feelings about her baby, **251**
what to do for the baby, **252–267**
what to do for the mother, **246–252**
First weeks after birth, 269–279
Also see First few hours after birth
baby not gaining weight or growing normally, **276**
baby not urinating or passing stool in first day, **275**
caring for the baby's cord, **277**
color of baby's skin and eyes, **279**
dehydration (baby), **275**
giving emotional support, **274**
helping mother care for herself, **269**
leaking urine or stool (mother), **273**
legs red, hard, swollen, or painful (mother), **273**
signs of infection (baby), **277–279**
vomit "shoots" out (baby), **276**
what to do for the baby, **274–279**
what to do for the mother, **269–274**
womb and bleeding, watching mother's, **270**
womb infection, signs of, **271**
Fish, 35, 42
Fistula (hole in the vagina)
leaking urine or stool and, **273**
long labor and, 186
in past pregnancies, 94
preventing, 22, **273**
Fits. *See* Convulsions (fits)
Flat nipples, **287**
Floor
underpadding for birth on, 58
washing, 57
Fluids. *See* Water and liquids
Folding scale, homemade, **445–446**
Folic acid (folate), **37**
Folk medicine, 17
Fontanels (soft spots in baby's head), 259
Food. *See* Bottle feeding; Breastfeeding; Eating and food
Foot. *See* Feet
Footling breech (feet first), 215, **218–219**. *Also see* Breech baby (bottom down)
Forceps, 142, **435**
Foreskin. *See* Circumcision (male)
Forgetfulness during pregnancy, 83
Formaldehyde, 64
Formula. *See* Bottle feeding
Frank breech (straight legs), 215, **216–218**. *Also see* Breech baby (bottom down)
Friends. *See* Community
Fruits, 35, 42
Fumes, 47
Fungus. *See* Yeast infection

G

Garbage dumps, 69
Gardnerella (BV or bacterial vaginosis), 328
Gas pains (colic), 291
Generic names of medicines, 467
Genital herpes, 331–332
Genitals
Also see Pelvic exam; Sexually transmitted infections (STIs); Vagina
bulging during contractions, 195
checking baby's, **263–264**
checking mother's after birth, **248–249**
cleaning mother's after birth, **247**
illustrated, 27, 376
itching, 77, 326, 327, **328**
swollen veins around, 76
torn during birth, **248**
Genital ulcers (sore on genitals), **329–333**
avoiding sex if present, 329
chancroid, 330, **331**
genital herpes, **331–332**
HPV (genital warts), **333**, 379, **380**
syphilis, **329–330**
Genital warts (HPV), **333**, 379, **380**
German measles (rubella), 45, 95
Germs
defined, 49
how they get into the body, **50**
infection caused by, **49–51**
keeping away, **52–56**, 175
sterilization and, 60
Getting up and down during pregnancy, **78**
Girls' need for food, 39
Gloves
disposing of, 68
how to put on sterile gloves, 55
plastic bags as, 54
for preventing infection, 51
reusing, 66
sterile packets of, 55, 65
sterile, using, **54–55**
sterilizing, 66
Glow foods, 34, 35, **36–39**. *Also see* Minerals; Vitamins
Glutaraldehydes, 64
Glycerine and alcohol hand cleaner, **54**
Go foods (fats, oils, and sugar), 34, 35
Goiter, 38, 117
Gonorrhea (gono), 50, **323–325**
Gourd model for womb, **454**
Grains, 35, 42
Greed and medicine, 19
Grow foods (proteins), 34, 35, 250
Guarding the labor, **158**
Guiding the labor, **159–163**
Gums
pale, 116
sore or bleeding, 117

H

Hands
Also see Touching inside the vagina
checking baby's, **262**
swollen in mother (warning sign), 76, 81, 126, 127
washing, **53–54**, **153**, 168
Hard stools. *See* Constipation
Harelip (cleft lip), **261–262**
Harmful diet beliefs, **39–40**
Headaches
during pregnancy, **81**
migraines, 81
as warning sign, 81, 109, 125
Head of baby
Also see Breech baby (bottom down)
beginning to show in birth, 196–197
caputs and hematomas, **260**
checking after birth, **259–260**
clearing nose and mouth, **208–210**
finding in pregnant mother, **137–138**
to one side in womb (asynclitic), **204**
shape, suture lines, and fontanels, **259**
slowing the birth of, **207–208**
Head up position. *See* Breech baby (bottom down)
Health care in pregnancy, 33–47
Also see Prenatal checkups

cleanliness, 42–43
eating well, **33–42**
exercise, 43–44
illness during pregnancy, **97–101**
importance of, 70
pregnancy health history, **85–107**
prenatal checkups, **108–145**
preventing infection, **49–69**
purposes of, 70
record of prenatal care, **145**
sleep, rest, and relaxation, 44
things to avoid, **45–47**
warning signs (medical help needed), **106**, **109**
woman's body in pregnancy, **27–30**, **73–83**
for women with HIV, **101**, **335**
Health history, 85–107
age, **90**
health problems at present, **97–101**
medicines she is taking, **103**
miscarriages or abortions, **91–92**
months pregnant and due date, **88–90**
number of previous babies, **90–91**
other things affecting pregnancy and birth, **104–107**
overview, 85
past problems with pregnancy or birth, **93–96**
problems with medicines, **103**
signs of pregnancy, **86–87**
tetanus vaccinations, **101–102**
Health workers. *See* Doctors; Midwives
Heartbeat (baby), 139–141, **172–173**, **243**
checking after birth, **243**, **255**
checking during labor, **172–173**
checking speed of, **141**
equipment for listening to, 139
fast, **173**, 184, **243**, **255**
finding, 139
finding baby's position by, **140**, 172
listening to, **139–141**, **172**
listening to heart sounds, **262**
missing (molar pregnancy sign), **134**
pulse in cord, 139, 177
quiet, 141
as sign of pregnancy, 87
slow, **141**, **172–173**, 177, 184, 208, **243**, **255**
stopped, 134
swishy sound, 139
twins, **143–144**
warning signs versus healthy signs, **141**, **172–173**
Heartbeat (mother). *See* Pulse (mother)
Heartburn, **74–75**
Heart (meat), 42
Heart monitors, 437
Heart problems
Also see High blood pressure
pregnancy problems and, 97
signs of, 78
Heat. *See* Fever; Temperature
Hee breathing, 170
Helper for birth, **151**, 223
Helping Children Who Are Blind, 267
Helping Children Who Are Deaf, 267
Helping Health Workers Learn, 5, 41
Hematoma (blood blister)
in baby's head, **260**
in vagina after birth, **248–249**
Hemorrhage. *See* Bleeding
Hemorrhoids (piles), **77**
Hepatitis, **336**
HIV and , 492
immunization for hepatitis B, 267
pregnancy problems and, 97, 336
signs of hepatitis B, **336**
stopping spread of, 50, 51
treating hepatitis B, **336**
Herbal supplements in health history, 103
Herbicides, 47
Heroin, 46
Herpes, genital, 331–332
High blood pressure
bleeding and, 231
caring for, **124–125**
during labor, **180–181**
family planning and, 306
late in pregnancy, with headaches, 81
in past pregnancies, 93
pre-eclampsia and, 125, 126, **180–182**
pregnancy problems and, 81, 97
protein in the urine and, 125, 126, 180
as warning sign, **122**, **180**
womb growing too slowly and, 134
High Level Disinfection (HLD), 59. *Also see* Sterilizing equipment
Hips
checking baby's, **264–265**
deformity in mother, 97
dislocated (baby), **265**
HIV, 99–101, **334–335**
Also see Sexually transmitted infections (STIs)
AIDS, **99**
breastfeeding and, 286, **293–294**
care for pregnant women with, **101**
CD4 test, 335, **492**
cesarean surgery and, 436
family planning methods and, 300–301
germs and, 50, 51
helping to stop, **100**
how it is spread, 99–100 , 286
instrument birth and, 435
medicines for, 101, 335, **492–498**
pregnancy and, **335**
pregnancy problems and, 97, 101
preventing after accidental exposure or rape, 493
preventing mother to child transmission of, 495
protecting against, **99–101**, **334**
signs of, **334**
spermicides and, 305
tests for, 99, 100, 334
HLD (High Level Disinfection), 59. *Also see* Sterilizing equipment
Homemade equipment, 443–446
due date calculator, **527**
scales, **445–446**
stethoscopes, **445**
timers, **443–444**
Homemade sponge method for family planning, 317
Homemade teaching materials
basic methods for making, **447**
model of birth, **461**
model of pelvis, **448–449**
model of pregnancy, **454–460**
model of vagina, **452–453**
model of womb, **450–451**
Hookworm, anemia caused by, 37
Hormonal methods for family planning, 305–310
birth control pills, **307–308**
other methods compared to, 301
overview, 305–306
side effects, **306**
women who should not use, 306
Hospital or medical center
access to, 437
anemia and birth in, 116
baby taken from mother in, 240
benefits and risks of, 16–17
breech baby and, 142
cleaning, 57, 58
distance from care, 104
infection danger and, 52
lab tests, **434**
medicines from, **434**
midwives at, **440–441**

for pre-eclampsia treatment, 126, 127
sonograms, dopplers, and X-rays at, **434**
tools for helping sick babies, **437**
tools for labor and birth emergencies, **435–436**
transfusion at, **436**
transport plan for getting there, 10, **106–107**, **164**, **438**
for twins' birth, 144
types of help provided by, **433–437**
unnecessary practices and, 433, **441**
House conditions, 104
Household bleach. *See* Bleach
HPV (genital warts), **333**, 379, **380**
Human Immune Deficiency Virus. *See* HIV/AIDS
Human Papilloma Virus. *See* HPV
Hurrying labor. *See* Encouraging labor
Husband. *See* Partners
Hydrogen peroxide
for sterilizing tools, 64
washing floor with, 57
Hypodermic syringes. *See* Injections; Needles (hypodermic)
Hypothyroidism, 38, 117

I

Ideas about food, health and, **39–40**
Illness
Also see Infections; Signs (baby); Signs (mother during pregnancy); Signs (mother in labor, birth, and after); *specific illnesses*
breastfeeding by sick mother, **292**
keeping away from, during pregnancy, **45**
keeping sick people away from births, **50–51**
medical help needed for, 97
medicines listed by, 472
pregnancy health history, **97–101**
Immunizations. *See* Vaccinations
Implants for family planning, **309–310**
Incomplete abortion, **407–408**, 417, **419**
Incubator, 437
Indigestion. *See* Stomach problems
Inducing labor. *See* Encouraging labor
Infections
Also see Sexually transmitted infections (STIs)
after abortion or miscarriage, **406**, **409–411**, **419**
after birth, **251**
in baby, 255, **256**, **277–279**
bacterial vaginosis (BV) or gardnerella, **328**
basic rules for preventing, 52
bladder, 77, 97, 120, **128–129**, 179
breast (mastitis), **289**
chancroid, 330, **331**
chlamydia, 50, 323–325
during labor, **178–179**
from female genital cutting, **368–369**
fever from, 120
germs and, **49–51**
gonorrhea, 50, **323–325**
hepatitis, **336**
herpes, genital, **331–332**
HIV and, 101
HPV (Human Papilloma Virus), **333**, 379, **380**
IUD dangers for, 49, 390, **399**
kidney, 97, **128–129**, 179
labor not starting and signs of, 176
medical help needed for, 106
Pap test for, 379, **381–383**
in past pregnancies, 95
pregnancy problems and, 97
preventing, 42, **49–69**
preventing, for people with HIV, 101, 335, **478**
rescue breathing and, 243
syphilis, **329–330**
thrush (yeast infection), **290**
trichomonas (trich), **326**
urethra, 128, 129
vaginal, **272**
womb, 120, 179, **185**, **271**, **399**
yeast, 101, 115, **290**, **326–327**
Infertility, 30–31
Injectable contraceptives, 309
Injections, 345–349
Also see Medicines; Needles (hypodermic); Vaccinations
allergic reactions to, 345
dangers of, 345
drawing up the medicine, **346–348**
how to give, **346–349**
infection danger and, 50, 51, 56, 345
numbing torn area before sewing, **360–361**
numb the cervix during MVA, **424**
times when helpful or necessary, 345
using ampules of medicine, 346, **347**
using liquid in a bottle, 346, **347**
using only when necessary, 344
using powder in a bottle, 346, **348**
vitamin, 42
where to inject, 348
Injury inside the body (internal injury), 413
Insomnia, 75
Instrument birth, 435–436
Instruments. *See* Sterilizing equipment; Tools and supplies
Intrauterine devices (IUDs), 389–399
advantages and disadvantages of, 390
after inserting, checking, **398–399**
before inserting, explaining about, **392**
before inserting, sterilizing tools, 392
before inserting, things to check, **391**
before inserting, things to know, **389**
Dalkon Shield, removing, **399**
dangers for some women, 390
described, 389
disadvantages and risks of, 311
for emergency contraception, **316**
for family planning, 301, **310–311**
helping a woman decide about, **390–391**
infection from, 49, 390, **399**
inserting, **392–398**
loading the *Copper T* IUD, **393–394**
removing, **399**
tools for inserting, 392
warning signs, **311**
Intravenous solution (IV), 350–351
Inverted nipples, 287
Iodine, **38**, **117**
Iron, **36**, 74, 116
Irritability during pregnancy, 82
Isopropyl alcohol
alcohol and glycerine hand cleaner, **54**
soaking thermometers in, 65
for sterilizing tools, 64
washing floor with, 57
Itching genitals, 77,326, 327, **328**
IUDs. *See* Intrauterine devices (IUDs)
IV (intravenous solution), 350–351

J

Jaundice signs in baby, 266, **279**
Joint aches and pains, 79, 81
Judgment, avoiding, 6

K

Kegels (squeezing exercise), 44
Kicking by baby
months pregnant and, 87
painful, 80
position of baby and, 138
as sign of pregnancy, 87
stopped, 80, 134
Kidney infection, 128–129
labor and, 179
pregnancy problems and, 97
signs of, **128**
treating, **129**
Kidney (meat), 42
Knots
4-layer, 364
square, 214

L

Labor and birth
Also see Contractions; Encouraging labor; First few hours after birth; First weeks after birth; *specific stages of labor*
baby does not fit through pelvis, **189**, **204**
baby not born after 1 or 2 hours of pushing, **203–205**
baby stuck at shoulders, **210–212**
basic pattern, 146
bladder of mother full and, **203**, 352
bleeding during, **183**, **205**
caring for the mother during labor, **157–163**, **169–170**, **200–202**
cesarean surgery (birth by operation), **96**
changing bedding under mother, **163**
changing position every hour in labor, **162**
clearing baby's nose and mouth, **208–209,** 213–214
cord around baby's neck, **209**
dead baby and, 135, **243**
delivering baby's body and giving baby to mother, **212**
delivering baby's shoulders, **210–212**
drinking during labor, **159–160**
early birth, 83, 88, 94, **221**, **292**
eating during labor, 160
first few hours after birth, **157**, **247–267**
guarding the labor, **158**
guiding the labor, **159–163**
helper for, **151**
helping the mother relax, **169–170**
home methods for starting labor, **341–344**
keeping sick people away, **50–51**
late, 88
long labor, 91, 94, **186–191**
not lying flat on back, 162, 200
overview, **155–157**
pain, easing, **169–170**, 187–188, 193
in past pregnancies, 94
pelvic exam and, 374
preventing problems, **163**
record keeping, **164–165**, 170
resting between contractions, **161**
signs of labor starting soon, **149–151**
signs of stage 2 near or starting, **195**
slowing the birth of the head, **207–208**
speed of birth, watching, **202–205**
stage 1 (opening), 146, **155–156**, **167–193**
stage 2 (pushing), 146, **156**, **195–221**
stage 3 (birth of the placenta), 146, **157**, **223–245**
supplies to have, **152–153**
supporting labor, **158**, **169–170**, **200–202**
swollen veins around genitals and, 76
transport plan for medical help, 10, **106–107**, **164**, **438**
urinating during labor, **161**
vaginal exams during, **186**, **339–340**
warning signs (medical help needed), **147**, **163**, **204–205**
when to go to birth, **151**
Labsticks, 126
Lab tests, 434
Large baby, 258
medical help needed for, 258
in past pregnancies, 94, 115
tired, weak, or sick, 254, 258
Late labor
Also see Encouraging labor
described, 167
long labor and, 189
normal and safe range, 88
Laughter during pregnancy, 82
Laxatives, avoiding, 77
Leafy vegetables, 36, 37, 39, 42
Leaking breasts, 76
Learning by midwives
about medicines, 466
before doing dangerous procedures, **21**
at hospitals, 440, **441**
as lifelong process, **1–2**
Legal concerns
for inserting IUDs, 389
for manual vacuum aspiration (MVA), 417
Legs
checking baby's, **264–265**
cleaning mother's after birth, **247**
clot, warning signs, **273**
constant pain in one leg, 81, 113
cramps, **80–81**
pain in, **113–114**
red, hard, swollen, or painful (mother), **273**
relaxing when pushing, 201
Legumes, 35, 41
Length of labor. *See* Encouraging labor; Long labor
Length of pregnancy
due date prediction, **88–89**, 130, **133**, **527**
early birth, 83, 88, 94, **221**, **292**
figuring months or weeks pregnant, 88, 89, 90
late labor, 167, 189
normal duration, 88
Lentils, 35, 41
Ligaments, pain in, 79
Light color. *See* Pale color; White color
Light labor, 167, 188
Limits, knowing yours, 20–21
Lips
cleft (harelip) in baby, **261–262**
dry (mother), 159
Liquids. *See* Water and liquids
Listening in pregnancy care, 7, 70
Liver disease. *See* Hepatitis
Liver (meat), 42
Living conditions, 104
Loading the *Copper T* **IUD**, 393–394
Lockjaw. *See* Tetanus (lockjaw)
Long labor, 186–191, 202–205
Also see Encouraging labor
active labor, 188
baby does not fit through pelvis, **189**, **204**
baby in difficult or impossible position, **190–191**, **204**
baby not born after 1 or 2 hours of pushing, **203–205**
bladder of mother full and, **203**, 352
exhaustion from, **188–189**
fear or tension and, **187–188**

late labor, 189
light labor, 188
medical help needed for, 106, **204–205**
number of previous babies and, 91
in past pregnancies, 94
position of mother and, **203**
problems from, 186
twins and, **220**
watching the speed of birth, **202–205**
Loose stool *See* Diarrhea (loose stool)
***Lugol's* iodine**, 38
Lump (abscess) in breast, 288
Lung problems (baby)
chlamydia or gonorrhea and, **324**
infection (pneumonia), **278**
Lying down
Also see Rest; Sleep
during labor, changing position every hour, **162**
during labor, not flat on back, 162, 200
during labor, on side, 200
during pregnancy, 78

M

Macrolides, 471
Magnesium for leg cramps, 81
Main foods (carbohydrates), 34, 35
Maize, 35, 38
Malaria, 98–99
anemia caused by, 37
infertility and, 31
labor and, 179
miscarriage from, 91
pregnancy problems and, 97
preventing, 98–99
rapid test for, **99**
treating, **98–99**
Malnutrition. *See* Poor nutrition
Manual vacuum aspiration (MVA), **417–421**
before doing, things to know, **417**
cannula becomes clogged during, **429**
cannula comes out of womb during, **428**
checking on woman after, **430–431**
choosing a cannula, 425
family planning and, 431
getting ready, **419–421**
helping the woman be comfortable, 419
how to do, **422–428**
infection danger and, 49
injection to numb the cervix, **424**
overview, 417
preventing pain, **421**, **424**
problems that can be caused by, **430**
problems with, **428–430**
safety concerns, 92, 417, **418**
staying healthy after, **431**
sterilizing tools, **420–421**
syringe is full during, **429**
tools and supplies, **419–421**
uses for, 417
vagus nerve and, **426**
warning signs versus healthy signs after, **430–431**
when to do, **418–419**
womb is too big to empty, **430**
Mask of pregnancy, 79
Massage between contractions, 169
Mastitis (breast infection), 289
Materials for teaching. *See* Models for teaching
Maternity center. *See* Hospital or medical center
Measles, German (rubella), 45, 95
Measuring medicines, 468–469
Measuring the womb, 130–135
for checking baby's growth, 130
cloth tape measure for, **132**
determining months pregnant, **90**, 130
for due date prediction, 130, **133**
feeling the womb, **130–131**
finger method for, **131–132**
warning signs, **132–135**
ways of measuring, 90, **130–132**
womb growing too fast, **133–134**
womb growing too slowly, **134–135**
Meat, 35, 42
Meconium (baby's first stool)
defined, 174
in waters, 174–175, 209, **213**
Medical alcohol. *See* Alcohol (medical)
Medical center. *See* Hospital or medical center
Medical Mission Sisters, 63
Medical pregnancy test, 87
Medication abortion, 92
Medicines, 462–497
Also see Injections; Vaccinations
specific medicines, **473–497**
for allergic reactions, 465
allergic reactions to, **103**, **465–466**
amount to take, 464, 466, **468–469**
antibiotics, **470–471**
avoiding during pregnancy or breastfeeding, 45, 463
for bacterial vaginosis (BV or gardnerella), 328
benefits and risks of, 16
for birth of the placenta (stage 3), 224, 225, **228**, **231**, **233**, 237
for bladder infection, 129
breastfeeding and, **292**
for breast infection (mastitis), 289
for chancroid, 331
for chlamydia, 324, 325
choosing safe and helpful medicine, 19
combinations, avoiding, 464
dosage, 464, 466, **468–469**
for emptying womb after incomplete abortion, 408
"families" of, 103
for fever, 119
forms of, **467**
for genital herpes, 332
for gonorrhea, 324, 325
greed and, 19
health history, **103**
to help the womb contract, 224
hepatitis B and, 336
for HIV and AIDS, 101, 335, **492–498**
from hospitals or medical centers, 434
how to take safely, **464–466**
how to take, **467–470**
for HPV (genital warts), 333
for infection after abortion or miscarriage, **410**
for kidney infection, 129
knowing about, 466
listed by problem treated, **472**
for malaria, **98–99**
measuring, **468–469**
for medical abortion, 92
for meningitis (brain infection), **279**
for migraines during pregnancy, 81
names of, **467**
non-Western systems, 17
for numbing torn area before sewing, 360
for pelvic inflammatory disease (PID), 325
plant medicines for starting labor, **344**
for pneumonia (lung infection), 279
poisoning from, 466
for pre-eclampsia, **181–182**
to prevent infection after birth of the placenta, 231, 233
for preventing pain during MVA, 421

for sexually transmitted infections, 322
side effects, **464–465**
signs of problems with, **464–466**
for starting labor, 175, 191
to stop bleeding from the womb, 231, 237
for syphilis, 330
for tetanus (lockjaw), 278, 411
traditional medicine, 17, 463
for trichomonas (trich), 326
types of, 17–19, 470
Western medicine, 17, 18
when to take, **469–470**
when to use, **463**
for womb infection, 179
for yeast infection, 327
Meningitis (brain infection) in baby, 278
Menopause (end of monthly bleeding), 31, 86
Menstruation. *See* Monthly bleeding
Mercury in fish, 35
Midwives, 1–11
emotional support after early end to pregnancy, **403–404**
helping to stop HIV, **100**
at hospitals, **440–441**
knowing your limits, **20–21**
learning lifelong for, **1–2**
prenatal care and, 70–71
protecting yourself from infection, **56**
sharing what you know, **3–6**
supplies to have at birth, **152–153**
unnecessary practices at hospitals and, 433, **441**
working for the joy of it, **11**
working to improve women's health, **8–10**
working with hospitals and doctors, **438–441**
Migraine headaches, 81
Milk. *See* Bottle feeding; Breastfeeding
Minerals
calcium, **37–38**, 74, 81
to eat every day, **36–38**
glow foods, 34, 35
iodine, **38**, **117**
iron, **36**, 74, 116
magnesium, 81
potassium, 81
preventing leg cramps, 81
Miscarriage, 401–415
Also see Manual vacuum aspiration (MVA)
bleeding too much after, **406**, **412–414**
defined, 91
diabetes and, 93
emergency care for problems, **406–414**
emotional support after, **403–404**
finding care after, **401–403**
helping a woman after, **401–415**
history of, **91**
HIV and, 101
infection after, **406**, **409–411**
IUD dangers after, 390
physical care after, **404–405**
preventing, 91
problems from, **401–405**
shock after, 409, **414**
spotting during cramps and, 79
tetanus (lockjaw) after, **411**
warning signs, 79, 112
warning signs versus healthy signs, **404**
Misoprostol
to empty womb after incomplete abortion, **408**
to help the placenta come out, 224, **228**
to stop bleeding from the womb, 231, 232, 234, 237
Models for teaching
baby, **459**
basic methods for making, **447**
birth, **461**
cord, **458–459**
pelvis, **448–449**
placenta, **456–457**
pregnancy, **454–460**
sources for other teaching materials, **461**
vagina, **452–453**, **454**
womb, **450–451**, **454–457**
Molar pregnancy (tumor), 134
Money
eating well with little, **41–42**
pregnancy problems and, **104**
Monthly bleeding (menstruation)
defined, **29**
heavy, IUD dangers and, 390
menopause and, 31
predicting due date using, **88–89**, 133
stopped, as sign of pregnancy, 86
stopped, with birth control pills, **307**
Months pregnant, figuring, 88, 89, 90. *Also see* Length of pregnancy
Moon, figuring due date by, 89
Morning sickness, 73–74, 86, **110–111**. *Also see* Nausea
Mouth
checking baby's, **261**
cleft lip (harelip) or cleft palate, **261–262**
Mouth care, 43
Movements by baby
months pregnant and, 87
painful kicking, 80
position of baby and, 138
as signs of pregnancy, 87
stopped, 80, 134
Moving to encourage labor, 192
Mucus
plugging cervix, 28, 150, 155
show (mucus tinged with blood), **150–151**
Mucus bulb (bulb syringe), 66, **209**
Mucus method of fertility awareness, **313**
Mumps, infertility and, 31
Muscle tone (baby), 244
MVA. *See* Manual vacuum aspiration (MVA)

N

Nausea
Also see Vomiting
causes other than pregnancy, 86
drinking during labor and, 159
liquids easier to drink, 159
morning sickness, **73–74**, 86, **110–111**
warning signs versus healthy signs, **110–111**
Neck, checking baby's, 262
Needles for sewing tears, 56, **362**, **366**
Needles (hypodermic)
Also see Injections
caring for, 66–67
disposing of, 68, 69
drawing up medicine into, **346–348**
HIV spread and, 99, 334
preparing for injections, **346**
reusable and disposable syringes, 66
safe handling of, **56**
sterilizing, 66–67
used, dangers of, **349**
Newborn. *See* Baby; First few hours after birth; First weeks after birth
Nightmares, 82
Nipples
Also see Breastfeeding
during breastfeeding, 282
flat or inverted, **287**
fluid leaking from, 76
sore or cracked, **290**

stimulating to encourage labor, 192
thrush (yeast infection), **290**
Nitrazine papers, 174
Non-Western systems of medicine, 17
Nose, checking baby's, 261
Numbing
cervix during MVA, **424**
torn area before sewing, **360–361**
Numbness of feet, 117
Nutrition. *See* Bottle feeding; Breastfeeding; Eating and food
Nuts, 35, 38

O

Observing in pregnancy care, 70
Ointments. *See* Medicines
Opening of the vagina, enlarging. *See* Episiotomy (cutting the vaginal opening)
Opening (stage 1 of labor), **167–193**
Also see Encouraging labor; Labor and birth; Signs (mother in labor, birth, and after)
active labor, 167
baby does not fit through pelvis, **189**
baby's heartbeat, checking, **172–173**
baby's position, checking, **170–171**
baby's position, difficult or impossible, **190–191**
bag of waters, **174–177**
bleeding during labor, **183**
blood pressure, checking mother's, **180–182**
breathing by the mother, **170**
convulsions (fits) during, **181–182**
cord coming in front of baby (prolapsed), **176–177**
helping the mother relax, **169–170**
keeping germs out of vagina, 175
labor patterns in, **168**
late labor, 167
light labor, 167
long labor, **186–191**
overview, 146, **155–156**, **167–168**
pain in the womb, **183–185**
parts, 167
pre-eclampsia and, **180–182**
pulse, checking mother's, **178**
pushing, avoiding, **186**, **196**
signs for the midwife to check, **170–193**
signs of progress, **185**
size of fully open cervix, **156**
sounds that are helpful, **169**
temperature, checking mother's, **178–179**
touching the mother, **169**
vaginal exam, **186**
when you first arrive, **168**
Operation, birth by. *See* Cesarean surgery (birth by operation)
Opium, 46
Organ meats, 42
Ovaries
bimanual (2-hand) exam, **387**
illustrated, 28, 29
Overweight mother, 115, 118
Oxygen, giving to baby, 241, 437
Oxygen tent, 437
Oxytocin
in "active management" of stage 3, 225
to help the placenta come out, 224, **228**
to help the womb contract, 236
not giving at home, 434
to stop bleeding from the womb, 230, 231, 232, 234

P

Packaged foods, 39
Pain
Also see Signs (baby); Signs (mother during pregnancy); Signs (mother in labor, birth, and after)
baby kicking, 80
back, **80**, **113–114**
belly, **79**, 109, **113–114**, 125
changes and discomforts in pregnancy, **76–81**
between contractions, 184
easing during labor, 169–170, 187–188, 193
gas pains (colic) in baby, **291**
headaches, **81**, 109
joints, 79, 81
legs, **113–114**
lower belly, 128
lump (abscess) in breast, **288**
in one leg, constant, 81, 113
preventing during MVA, **421**, **424**
stomach (heartburn), **74–75**
unusual pains during pregnancy, 81
on urination, 77, 128
vagina, after birth, **248–249**
warning signs versus healthy signs, **113–114**
in womb during labor, **183–185**
Pains, labor. *See* Contractions
Palate, cleft, 261–262
Pale color
baby, **244–245**, **266**
cord white after birth, 157
inside of eyelids, fingernails, and gums, 116
shock and, **239**
Panting, 170, 201
Pap test for infections or cancer, 379, **381–383**
Paper mache models, **447**
Paper pelvis model, 448–449
Parasites, 37, 74, 86, 111, 118
Partners
abusive, 105
family planning and, **318**
feeding first, 9
helper for birth, 151
for improving women's health, 9
as people who affect a woman's health, **8–9**
permission for care from, 107
sex during pregnancy and, 83
support from, 105, 106
women's health affected by, 8–9
Patterns. *See* Models for teaching
Peas, 35, 41
Peeing. *See* Urinating
Pelvic exam, **373–387**
asking about history before, **375**
before the exam, **375–376**
bimanual (2-hand) exam, 373, **384–387**
making safe, **374–375**
Pap test for infections or cancer, 379, **381–383**
parts of, 373
speculum exam, 373, **377–383**
tools for, 376
uses for, 373
vinegar test for HPV, 379, **380**
visual exam, 373, **376**
when to do and not to do, **374**
Pelvic infection (pelvic inflammatory disease or PID), 325
Pelvis
Also see Pelvic exam; Pubic bone
baby does not fit through, **189**, **204**
baby moving down through,137, **171**
baby stuck at shoulders, **211–213**
illustrated, 27
model for teaching about, **448–449**
not formed well in mother, 96
small, symphysiotomy for, **436**
squeezing exercise for (Kegels), 44
Penicillins, 471

Penis
Also see Sexually transmitted infections (STIs)
baby's, 263, **264**
partner's, 29, 83
People. *See* Community; Family; Partners
Pesticides, 31, 47
Pharmaceutical drugs. *See* Medicines
Physical discomforts during pregnancy, 76–81
Physicians. *See* Doctors; Hospital or medical center
PID (pelvic inflammatory disease), **325**
Piles (hemorrhoids), 77
Pills. *See* Medicines
"Pill, the," 307–308
Placenta
Also see Birth of the placenta (stage 3 of labor)
birth of (stage 3 of labor), 146, **157**, **223–245**
checking after birth, **233–234**
covering the cervix (placenta previa), 112, 183, 374
detached (abruption), **114**, 180, **184**, **205**, 219, 354
disposing of, 67, 235
guiding out by the cord, **228–229**
heavy bleeding before birth of, **226**
helping the mother push it out, **227–231**
helping the womb contract after birth of, 224, 231, **236–238**
illustrated, 30
model for teaching about, **456–457**, **460**
piece left inside womb, **234–235**
problems in past pregnancies, 95
pushing on mother's belly and, **205**
separation from womb after birth, 157
signs of separation from womb, **226–227**
taking out by hand, **230–231**
womb comes out with, **232–233**
Placenta previa, 112, 183, 374
Plant medicines for starting labor, **344**
Plastic bags as gloves, 54
Plastic waste, safe disposal of, 68
Pneumonia (lung infection) in baby, 278
Poisoning from medicine, 466
Poisonous chemicals, 47
Polyvidone iodine, 38
Poor nutrition, 33, **117**, 134
Position of the baby, 135–144, **170–171**, **190–191**, **215–219**
breech (bottom down), 137, 138, **142–143**, **190**, **215–219**, **369–371**
checking early in labor, **170–171**
difficult or impossible position, **190–191**, **204**
face first or forehead first, **190**, **204**
facing back, **136**, **171**
facing stomach (posterior), **136**, **171**, **190**, **204**
feeling the mother's belly, **135–138**
finding by listening to heartbeat, **140**
finding the head, **137–138**
head to one side (asynclitic), **204**
heartbeat of baby and, **139–141**
kicking or other movements and, 138
medical help needed and, 190–191
moving down through pelvis, **171**
recording, 140
sideways, **143**, **191**, 219, **220–221**, **369**, **371**
turning a breech or sideways baby, **369–371**
twins and, 219, **220–221**
vertical (up and down), **136**
warning signs versus healthy signs, **135**
Position of the mother during birth
baby stuck at shoulders and, **212**
changing every hour, **162**
delivering baby's shoulders and, 211
good for pushing, 200
letting her choose, **200**
long labor and, **203**
not lying flat on back, 162, 200
Posters, making from slides, 447
Potassium for leg cramps, 81
Poverty. *See* Money
Practice contractions, 150, 155
Pre-eclampsia
caring for, **127**
checking for, **126–127**, 180
convulsions (fits) from, 93, 126, **181–182**
during labor, **180–182**
medical help needed for, 106, 125, **126**, **127**, **180–181**
in past pregnancies, 93, 97
signs of, 76, 81, 122, **125–126**, 180
Pregnancy
Also see Abortion; Family planning; Health care in pregnancy; Miscarriage; Prenatal checkups
age and, **90**
antibiotics and, 471
breastfeeding during, **292**
caring for body during, **42–44**
changes and discomforts, **76–81**
distance from care and, **104**
due date, **88–89**, 130, **133**, **527**
eating and digestion changes in, **73–75**
eating well, **33–42**
family support during, **105–107**
feelings and emotions in, **82–83**
figuring months or weeks pregnant, 88, 89, 90
harmful diet beliefs, **39–40**
health history, **85–107**
hepatitis B and, **336**
herpes and, 332
HIV and, **335**
how the baby grows, **30**
how women get pregnant, **29**
illness during, **97–101**
living conditions and, **104**, 104
mask of, 79
medicines and, 45, **103**, 463, 471
menopause and, 31
model for teaching about, **454–460**
molar (tumor), **134**
money and, **104**
number of previous babies and, **90–91**
problems with medicines and, **103**
problems with past pregnancies or births, **93–97**
sex during, **83**
sexual and reproductive parts, **27–28**
signs of, **86–87**
sleeping changes in, **75**
syphilis and, **330**
tetanus vaccination and, **101–102**
things to avoid during, **45–47**
transport plan for medical help, 10, **106–107**, **164**, **438**
woman's body in, **27–30**, **73–83**
work and, **105**
Pregnancy health history. *See* Health history
Premature birth. *See* Early birth
Prenatal care. *See* Health care in pregnancy
Prenatal checkups, 109–145

Also see Signs (baby); Signs (mother during pregnancy)
after the checkup, **144**
checking the baby, **130–144**
checking the mother's body, **116–129**
importance of, 70–71
pregnancy health history, **85–107**
record of prenatal care, **145**
scheduling, **144**
talking with the mother, **109–115**
Pressure steaming, sterilizing tools by, 61–62
Preventing
Also see Family planning
abortions, unsafe, **415**
anemia, 36
bladder infection, 129
blindness (baby), **260–261**, 324
constipation, 76
fistula (hole in the vagina), 22, **273**
goiter, 38
health problems, community changes for, **23–25**
heavy bleeding after birth, **248**
HIV, **99–100**, **335**
infection, 42, **49–69**
labor problems, **163**
leg cramps, 81
malaria, 98
miscarriages, 91
sexually transmitted infections (STIs), **336–337**
tears, **206–208**, 356
tetanus (lockjaw), 102, 278, 411
yeast infection, **327**
Primaquine, 98
Privacy, 7
Processed foods, 39
Prolapsed cord (coming in front of baby)
episiotomy for, **354–355**
footling breech (feet first) and, 218
slowing birth not recommended for, 208
twins and, 219
watching for, **176–177**
what to do about, **177**
Protective clothing for preventing infection, 56
Protein in the urine
as bladder infection sign, 128
as pre-eclampsia sign, 125, **126–127**, 180
Proteins (grow foods), 34, 35, 250
Pubic bone
Also see Pelvis
baby stuck at shoulders, **211–213**
illustrated, 27
symphysiotomy (cutting in middle), **436**
using to feel for baby's head, 137
Pulling out (withdrawal) during sex, 301, **317**
Pulse in cord, 139, 177. *Also see* Heartbeat (baby)
Pulse (mother)
in belly, 139
checking during labor, **178**
checking during pregnancy, **120–121**
fast, 116, **121**, 159, **178**, 239, 251
shock and, **239**
slow, **178**
warning signs versus healthy signs, **120**
Purgatives, avoiding, 77
Purple color
line between buttocks as stage 2 approaches, 195
spots on skin, 79
Pus, draining from vaginal infection, 272
Pushing (stage 2 of labor), 195–221
Also see Contractions; Encouraging labor; Labor and birth; Signs (mother in labor, birth, and after)
baby does not fit through pelvis, **204**
baby not born after 1 or 2 hours of pushing, **203–205**
baby stuck at shoulders, **211–213**
bladder of mother full and, **203**, 352
breathing by the mother, **201**
checking physical signs of mother and baby, **199**
clearing baby's nose and mouth, **208–210**
cord around baby's neck, **210**
crowning, 197
cutting the birth opening (episiotomy), 206, **354–355**
delivering baby's body and giving baby to mother, **214**
delivering the baby's shoulders, **211–213**
head of baby begins to show, 196–197
helping the mother give birth, **206–215**
helping the mother push, **201–202**
how the baby moves through the vagina, **197–198**
overview, 146, **156**, **196–198**
position of the mother, **200**
safe birth, helping, **199–202**
signs that stage 2 is near or starting, **195**
signs to watch for, **202–205**
slowing the birth of the head, **207–208**
supporting the mother, **200–202**
supporting the vaginal opening, **206**
too early, before cervix is dilated, **186**, **196**
warm cloths around the vaginal opening, **207**

Q

Quarter-circle scale, homemade, 446
Questions
Also see Talking
about eating habits, 34
answering family's questions, **267**
finding root causes of health problems, 21–22
in pregnancy health history, **85–107**
in prenatal checkup, **109–115**
midwives asking "why", 2, 21–22

R

Rashes
avoiding during pregnancy or breastfeeding, 45
from medicine, 103
poor nutrition and, 117
Razor blades, 65
Records
baby's position, 140
baby's physical signs in first few hours, **253**
of labor, **164–165**, 170
prenatal care, **144-145**
womb measurement, 131, 132
Rectal fluids, giving, 342
Rectal sphincter, sewing, 366
Red color
baby, **266**
legs (mother), **273**
Reflexes
baby, **244**
over-active (mother), 125
Rehydration drink, 159–160
Relaxation
Also see Rest
between contractions, **161**
helping mother during labor, **187–188**
Removing
intrauterine devices (IUDs), **399**
milk from breasts, **284–285**

Rescue breathing, 242–243
Respirator, 437
Rest
Also see Relaxation; Sleep; Tiredness
between contractions, **161**
during pregnancy, 44
first weeks after birth, 269
getting up and down during pregnancy, **78**
heartburn and, 75
for high blood pressure, 124
sleepiness during pregnancy, 75, 86
Rh incompatibility, 504
Role playing, 4
Root causes of health problems
finding, **21–22**
making changes in community, **23–25**
Rubella (German measles), 45, 95

S

Salt, high blood pressure and, 125
Sand timers, 443–444
Scales
homemade, **445–446**
weighing baby using, **258**
Scars
circumcision (female genital cutting), 206, **354–355**, **367–369**
on womb from abortion, 92
on womb from cesarean surgery, 96
Schedules
prenatal checkups, **144**
signs to check during stage 1 of labor, **170**
tetanus vaccinations, 102
Seeds, 35, 37
Seeing. *See* Eyes
Seizures. *See* Convulsions (fits)
Semen. *See* Sperm (semen)
Sewing a tear or episiotomy, **356–366**
general rules, **361**
getting ready, **359**
how to sew, **362–365**
judging whether stitches are needed, **356–358**
medical help needed for, 358
numbing the torn area, **360–361**
preventing tears, 356
rectal sphincter, **366**
safe handling of needles, **56**
sewing within 12 hours, 358
testing for torn muscle around anus, 357
tools for, **358–359**
tying stitches, **364**
Sex
Also see Family planning; Sexually transmitted infections (STIs)
abusive partners, 105
after birth, 269
during pregnancy, **83**
HIV spread and, 99, 334
pulling out (withdrawal) during, 301, **317**
without intercourse, 301, **312**
Sexually transmitted infections (STIs)
Also see HIV
affecting whole body, **334–336**
bacterial vaginosis (BV or gardnerella), **328**
chancroid, 330, **331**
chlamydia, **323–325**
community and, **337**
discharge (wetness from vagina), **323–328**
genital herpes, **331–332**
germs and, 50
gonorrhea (gono), 50, **323–325**
hepatitis B, **336**
how they are passed, **322**
HPV (genital warts), **333**, 379, **380**
infertility and, 31
itching of the genitals, **328**
IUD dangers and, 390
labor not starting after breaking of waters and, 176
miscarriage from, 91
overview, 321
Pap test for, 379, **381–383**
pelvic inflammatory disease (PID), **325**
preventing, **336–337**
sex during pregnancy and, 83
signs of, **321**
sores on the genitals, **329–333**
syphilis, **329–330**
treating, 321, **322**
trichomonas (trich), **326**
vinegar test for, 379, **380**
yeast infection, **326–327**
Shame, pelvic exam and, 375
Sharing knowledge
Also see Teaching
with the community, **4–6**
with other health workers and midwives, **3–4**
Sharp wastes, disposing of, 67
Shit. *See* Stool
Shock
after abortion or miscarriage, **409 414**
after female genital cutting (circumcision or FGC), **368**
after heavy bleeding, **239**
allergic reaction to medicine, **465–466**
signs and treatment, **239**
Shortening labor. *See* Encouraging labor
Short labor in past birth, 94
Shortness of breath (mother), 78, 103, **114**
Shots. *See* Injections
Shoulders (baby)
checking, **262**
delivering, **210–212**
episiotomy for stuck shoulders, **354–355**
Show (mucus tinged with blood), **150–151**
Sickness. *See* Illness; Infections; *specific sicknesses*
Side effects
of hormonal methods for family planning, **306**
of medicines, **464–465**
Sideways baby
checking for, **136**
dangers of turning, 369
medical help needed for, 136, **191**
turning, **369**, **371**
twins and, 219, **220–221**
what to do about, **143**
Sight. *See* Eyes
Signs (baby), 252–267
Also see specific conditions
breathing problems, **240–241**, **254**, **262**
breathing rate, **254**
breech (bottom down), 137, 138, **142–143**, **190**, **215–219**
checking after birth, **240–245**, **252–267**
checking in womb, **130–144**
chlamydia and, **324**
cleft lip (harelip) or cleft palate, **261–262**
color, **244–245**, **266**, **279**
cord around neck, **210**
cord coming in front (prolapsed), **176–177**, 208, 218, 219, 354
dehydration, **275**
dislocated hip, **265**
drops lower in belly, **149**
first hours after birth, **252–267**
first weeks after birth, **274–279**
gas pains (colic), **291**
general appearance, **253–254**
gonorrhea and, **324**
heartbeat (checking), **139–141**, **172–173**, **243**, **262**

heartbeat fast, **173**, **243**, **255**
heartbeat slow, **141**, **172–173**, 177, 184, 208, **243**, **255**
infection, 255, **256**, **277–279**
kicking stopped, 80, 134
length, 259
limp, weak, or does not wake up, **253–254**
low blood pressure, 122, 180
measuring the womb, 90, **130–135**
moving less or not at all, 184
not breathing, **241–243**
not gaining weight or growing normally, **276**
not urinating or passing stool in first day, **275**
physical signs during 2nd stage, **199**
position, **135–144**, **170–171**, **190–191**, **215–219**
prenatal checkup, **130–144**
recording signs in first few hours, **253**
reflexes, **244**
stuck at shoulders, **211–213**
temperature low, **255–256**
thrush (yeast infection), **290**
twins, 133, 138, **143–144**
vomit "shoots" from mouth, **256**
weight, **256–258**
womb growing too fast, **133–134**
womb growing too slowly, **134–135**

Signs (mother during pregnancy)
Also see Infections; Pain; Signs (mother in labor, birth, and after); *specific conditions*
after abortion or miscarriage, **404**, **406**, **409**, **411**, **412**, **413**, **414**
allergic reactions to medicine, **103**, **465–466**
anemia, 78, 81, **116**
back pains, **80**, **113–114**
bladder infection, 77, **128**
bleeding from vagina, 109, **112**
bleeding, heavy, 106
bleeding in early pregnancy, 79
blurred vision, 109, 125
breasts leaking, 76
burning sensations, **74–75**, 77
changes and discomforts in pregnancy, **76–81**
constipation, 36, **76–77**
cramps (womb), **79**
dehydration, 111
depression, 82
detached placenta, **114**, 219
diabetes (blood sugar disease), 93, **115**, 133
diarrhea, 50, 111
discharge (wetness from vagina), 50, **77**
dizziness, 81, 109
double vision, 125
fever, 97, 101, 109, 112, 113, 119, **120**
general health, **110**
headaches, **81**, 109, 125
high blood pressure, 81, 93, **122**, **124–125**, 134, 97
iodine lack, **117**
itching, 77
kidney infection, **128**
leg cramps, **80–81**
measuring the womb, 90, **130–135**
medical help needed (most important signs), **106**, **109**, **147**
medicines, problems with, **464–466**
miscarriage, 79, 112
nausea or vomiting, **73–74**, 86, **110–111**
pain in belly, back or legs, **113–114**
pain in one leg, constant, 81, 113
placenta previa, 112, 374
poor nutrition, **117**
pre-eclampsia, 76, 81, **125–126**, 127
of pregnancy, **86–87**
prenatal checkup, **109–129**
pulse fast, 120, **121**
purple spots on skin, 79
scars on womb, 92, 96
sexually transmitted infections (STIs), **321**, **323–335**
shortness of breath, **78**, 103, **114**
sleepiness, 75, 86
spotting, 79, 112
stools black, 36
sweating during pregnancy, **78**
swollen face and hands, 76, 81, 126, 127
swollen feet, 76
tiredness, 35, 75, 86, 93
tubal pregnancy, 79, **113**
tumor (molar pregnancy), **134**
urethra infection, **128**
urination frequent, **77**, 86
urination painful or burning, 77
vaginal infection, 77
vagina smells bad, 77
weakness, **111**
womb growing too fast, **133–134**
womb growing too slowly, **134–135**

Signs (mother in labor, birth, and after)
Also see Contractions; Signs (mother during pregnancy); *specific conditions*
allergic reactions to medicine, **465–466**
baby does not fit through pelvis, **189**, **204**
baby stuck at shoulders, **211**
bag of waters, **174–177**
being ready for emergencies, **163–164**
bleeding after birth, preventing, **248**
bleeding before placenta is born, **226**
bleeding during labor, **183**, **205**
blood pressure, **180–182**
breast infection (mastitis), **289**
cervix visible at vaginal opening after birth, **249**
checking genitals for tears and problems, **248–249**
checking physical signs after birth, **247**
clot in leg, **273**
convulsions (fits), **181–182**
cord coming in front of baby (prolapsed), **176–177**, 208, 218, 219, 354
dehydration, **159**, 178
detached placenta (abruption), **184**, **205**, 219, 354
eating and drinking, cannot or will not after birth, **250**
episiotomy needed, 354
fever, **178–179**
first few hours after birth, **247–252**
fistula (hole in the vagina), **273**
genitals torn after birth, **248**
hematoma (blood blister) in vagina after birth, **248–249**
infected womb, **185**
infection after birth, **251**
labor starting soon, **149–151**
leaking urine or stool, **273**
legs red, hard, swollen, or painful, **273**
medical help needed, **176**, 177, 179, 180–181, **204–205**
medicines, problems with, **464–466**
nausea or vomiting after drinking, 159
not interested in her baby, **251**
pain in the womb, **183–185**
placenta previa, 183, 374
placenta separated from womb, **226–227**

position of the baby, **170–171**, **190–191**
pre-eclampsia, 180
progress of labor, **185**
pulse, **178**
sexually transmitted infections (STIs), **321**, **323–335**
shock, **239**
speed of birth, watching, **202–205**
in stage 1 (opening), **170–193**
in stage 2 (pushing), **202–205**
stage 2 (pushing) near or starting, **195**
temperature, **178–179**
thrush (yeast infection), **290**
torn womb, **185**, **205**
vaginal infection, **272**
watching for, **163**
when to go to birth, **151**
womb infection, 179, **185**, **271**
Single mothers, 105
Sitting up when pregnant, 78
Size
Also see Weight
large baby, 254, **258**
large baby in past, 94, 115
measuring the womb, 90, **130–135**
small baby, 125, **221**, 254, **256–257**, **292**
small baby in past birth, 94
womb bigger than normal, 115
Skin
Also see Color (mother)
checking baby's, **265**
color (baby), **244–245**, **266**, **279**
dark patches, 79
loss of stretchiness, 159
pale, shock and, **239**
purple spots, 79
Sleep
Also see Rest; Tiredness
during pregnancy, 44, 75
getting up and down during pregnancy, **78**
heartburn and, 75
strange dreams and nightmares, 82
Sleepiness
Also see Tiredness
causes other than pregnancy, 86
during pregnancy, 75, 86
Slides, making posters from, **447**
Slow birth. *See* Encouraging labor; Long labor
Slow heartbeat (baby), 141, **172–173**, 177, 184, 208, **243**, **255**
Slow pulse (mother), 178
Small baby, 221, **256–257**
Also see Early birth
breastfeeding and, **292**
causes of, **257**
limp, weak, or does not wake up, 254
medical help needed for, 221, 256
in past pregnancies, 94
problems possible for, **256**
what to do for, **257**
Smelly vagina, 77, 321
Smoke, avoiding during pregnancy, 104
Smoking. *See* Tobacco
Sodium hypochlorite solution. *See* Bleach
Soft spots in baby's head (fontanels), 259
Sonogram, 90, 433, **434**
Sore nipples, **290**
Sores
on genitals (genital ulcers), **329–333**
poor nutrition and, 117
Sounds
Also see Heartbeat (baby)
helping the mother push, 201
making in stage 1 (opening), **169**
Speculum exam, **377–383**
described, 373
giving, **377–379**
Pap test for infections or cancer, 379, **381–383**
vinegar test for HPV, 379, **380**
Speeding labor. *See* Encouraging labor; Long labor
Spermicides, 301, 304, **305**
Sperm (semen)
germs in, 49, 50
reproduction and, 29, 30
Sponge method for family planning, **317**
Spontaneous abortion. *See* Miscarriage
Spots
rubella (German measles), 45, 95
on skin, 79
Spotting, 79, 112. *Also see* Bleeding
Spring scale, homemade, **446**
Square knot, 214
Squeezing exercise (Kegels), 44
Stage 1 of labor. *See* Opening (stage 1 of labor)
Stage 2 of labor. *See* Pushing (stage 2 of labor)
Stage 3 of labor. *See* Birth of the placenta (stage 3 of labor)
Starting labor. *See* Encouraging labor
Steaming
gloves, 66
sterilizing tools by, **61–63**
Sterile gloves. *See* Gloves
Sterile packets, 65
Sterilization for family planning, 301, **315**
Sterilizing equipment
Also see Cleanliness
by baking, **61**
bedding, **58**
before birth, **153**, 168
before inserting IUDs, 392
before manual vacuum aspiration (MVA), **420–421**
by boiling, **62**
chemicals for, **63–64**
defined, 59
gloves, 66
High Level Disinfection (HLD) and, 59
infection prevented by, 51
items requiring sterilization, 60
mucus bulb (bulb syringe), 66
needles, 66
by pressure steaming, **61–62**
razor blades, 65
by steaming, **62–63**
storing tools and supplies, **64–65**
thermometers, 65
tools, **59–64**
Stethoscopes, 139, **445**
STIs. *See* Sexually transmitted infections (STIs)
Stitches. *See* Sewing a tear or episiotomy
Stomach problems
nausea (morning sickness), **73–74**, 86, **110–111**
pain (heartburn), **74–75**
poor nutrition and, 117
Stool
baby does not pass in first day, **256**
black, 36
constipation, 36, **76–77**
diarrhea (loose stool) in baby, **275**
diarrhea (loose stool) in mother, 50, 111, 150, 343
disposing of, 67
enemas, avoiding during pregnancy, 77
germs in, 49
leaking freely after birth (mother), **273**
meconium (baby's first stool), 174–175, 209, **213**
in waters, 174–175, 209, **213**
Stopping pregnancy. *See* Abortion; Miscarriage
Storing
bedding, **58**
tools and supplies, **64–65**

Strengthening labor. *See* Encouraging labor
Suction trap, 213
Sugars (go foods), 34, 35
Sulfas (sulfanomides), 471
Supplements in health history, 103
Supplies. *See* Tools and supplies
Supporting labor, 158, 169–170, 200–202
Surgical birth. *See* Cesarean surgery (birth by operation)
Suture lines in baby's head, 259
Sutures, 358
Sweating
during pregnancy, **78**
shock and, **239**
Swelling
breasts (engorged), 76, **288**
face and hands (warning sign), 76, 81, 109, 126, 127
feet, 76
with headaches, 81
legs red, hard, or swollen, **273**
from medicine, 103
veins (varicose veins), 76
Symphysiotomy, **436**
Symptoms. *See* Signs (baby); Signs (mother during pregnancy); Signs (mother in labor, birth, and after)
Syphilis, 329–330
Syringes
Also see Injections; Needles (hypodermic)
bulb syringe, 66, 209, **213**
for manual vacuum aspiration (MVA), 419, **420**

T

Tablets. *See* Medicines
Talking
about difficult subjects, 7
keeping things private, 7
listening more than, 7
with mother in prenatal checkup, **109–115**
to women about food, **34–39**
TB. *See* Tuberculosis
Teaching
classes in the community, **4–5**
finding materials for, **461**
helper for birth, 151
homemade materials for, **447–461**
how to prevent STIs, **336**
to prevent health problems, **23–25**
as purpose of pregnancy care, 70
sharing knowledge, **3–6**
Tears
Also see Fistula (hole in the vagina); Sewing a tear or episiotomy
degrees of, **356–358**
genitals, checking after birth, **248**
judging whether stitches are needed, **356–358**
medical help needed for, 184, 205
preventing, **206–208**, 356
pushing on mother's belly and, **205**
sewing, **356–366**
testing for torn muscle around anus, 357
time for sewing, 358
vagina, **239**
vaginal infection, **272**
vaginal opening, during birth, 206
womb during labor, **184–185**, **205**
Teas
for bladder infection, 129
to help sleep, 75
for migraines during pregnancy, 81
for nausea relief, 74
Teeth, caring for, 43
Temperature
Also see Fever
checking baby after birth, **255–256**
checking mother after birth, **251**
checking mother during labor, **178–179**
checking mother during pregnancy, **119**
hot feeling during pregnancy, **78**
low (baby), **255–256**
warning signs (mother), 109, **119**, **178**
Tension
helping mother relax, **169–170** **187–188**
long labor and, **187–188**
when pushing, avoiding, 201, 202
Testicles
Also see Sexually transmitted infections (STIs)
baby's, 263, 264
father's, 29
Tests
for anemia, 116
blood pressure, checking the mother's, **122–124**, **180–182**
CD4, 335, **492**
for diabetes, 115
for HIV, 99, 100
lab tests, **434**
for malaria, **99**
measuring the womb, 90, **130–135**
for pregnancy, 87
for protein in the urine (pre-eclampsia sign), **126–127**
pulse, checking mother's, **120–121**
temperature, checking the mother's, **119**
for too much water in the womb, 134
Tetanus (lockjaw)
after abortion or miscarriage, **411**
cutting the cord and, 214
means of infection with, 102
protecting against, 102, 278, 411
signs in baby, **278**
signs in mother, **411**
vaccinations, **102**
Tetracyclines, 471
Thermometers, 65, **119**. *Also see* Temperature
Thin mother, **118**
Three-minute hand wash, 53–54
Thrush (yeast infection), 290
Thump test for water in the womb, 134
Time
Also see Early birth; First few hours after birth; First weeks after birth; Long labor; Schedules
for cutting the cord, 157
delayed labor, 88
due date, **88–89**, 130, **133**
early end to pregnancy, **401–415**
to go to birth, **151**
homemade timers, **443–444**
between labor start and breaking of waters, **175–176**
months or weeks pregnant, 88, 89, 90
for sewing tears, 358
short labor in past, 93
signs of labor starting soon, **149–151**
to take medicines, **469–470**
Timers, homemade, 443–444
Tiredness
Also see Anemia; Weakness
dehydration and, **159**
go foods for energy, 35
in past pregnancies, 93
sleepiness during pregnancy, 75, 86
as warning sign, 116
Tobacco
avoiding during pregnancy or breastfeeding, 46
avoiding smoke during pregnancy, 104
infertility and, 31

small baby and, 134, 257
Tonics, 103
Tools and supplies
Also see Homemade equipment; Sterilizing equipment; *specific tools and supplies*
blood pressure, 122
bulb syringe, 66, **209**
caring for, **65–67**
cloth tape measure for womb, **132**
disposing of wastes safely, **67–69**
at hospitals or medical centers, **435–437**
for inserting IUDs, 392
items requiring sterilization, 60
for listening to heartbeat, 139
low-cost and homemade, **443–446**
for manual vacuum aspiration (MVA), **419–421**
for pelvic exam, 376
for sewing tears, **358–359**
sterile packets of, 65
storing, **64–65**
suction trap, **209**
supplies to have at birth, **152–153**
Toothbrush, homemade, 43
Tooth care, 43
Torn flesh. *See* Tears
Touching inside the vagina
Also see Intrauterine devices (IUDs); Pelvic exam
avoiding during birth, 195, 206
baby stuck at shoulders and, **213**
pelvic exam, **373–387**
piece of placenta left inside womb, **234–235**
pressure to stop bleeding after birth, **238**
taking out the placenta by hand, **230–231**
vaginal exams during labor, **186**, **339–340**
womb comes out with the placenta, **232–233**
Touch in stage 1 (opening), 169
Toxemia of pregnancy. *See* Pre-eclampsia
Traditional medicine, 17, 463
Training. *See* Learning by midwives; Teaching
Transfusion (giving blood through an IV), 436
Transport plan for medical help, 10, **106–107**, **164**, **438**
Treating health problems, 13–25
Also see specific health problems
avoiding unnecessary procedures, 20
benefits and risks, 16–17
finding root causes, **21–25**
finding the best treatment, **16–21**
finding the causes, **13–15**
knowing your limits, **20–21**
steps for solving problems, **13–15**
types of medicine, 17–19, 470
Trichomonas (trich), 326
Tubal litigation (sterilization for women), 315
Tubal pregnancy, 79, **113**
Tuberculosis
HIV and, 492
infertility and, 31
pregnancy problems and, 97
vaccination (BCG), **267**
Tubes
illustrated, 28, 29
tubal litigation (sterilization for women), **315**
tubal pregnancy, 79, **113**
Tumor (molar pregnancy), 134
Turning a breech or sideways baby, 369–371
Twins, 143–144
breastfeeding and, **291**
dangers of twin births, **219**
delivering, **220–221**
listening to heartbeats, 143–144
medical help needed for, 144
signs of, 133, 138, 143

U

Ulcers. *See* Sores
Ultrasound, 90
Umbilical cord. *See* Cord; Cutting the cord
Upset stomach. *See* Stomach problems
Urethra
caring for infection, 129
illustrated, 27, 376
signs of infection, **128**
Urinating
Also see Sexually transmitted infections (STIs)
baby does not urinate in first day, **256**
blood in urine, 128
catheter (tube to help urinating), 249, **352–353**
during labor, **161**
frequent, **77**, 86, 115
helping mother after birth, **249**
to help the womb contract, 236
leaking freely after birth, **273**
painful or burning, 77, 128
protein in the urine, 125, **126–127**, 128, 180
squeezing exercise (Kegels) and, **44**
ways of encouraging, 249, 352
Uristicks, 126
Uterus. *See* Womb (uterus)

V

Vaccinations
Also see Injections
about, 276
hepatitis B, **267**
tetanus, **102**, 411
tuberculosis (BCG), **267**
Vacuum aspiration, 92. *Also see* Manual vacuum aspiration (MVA)
Vacuum extractors, 435
Vagal reaction, 426
Vagina
Also see Bleeding; Genitals; Pelvic exam; Sexually transmitted infections (STIs); Touching inside the vagina
cervix visible at opening after birth, **249**
fistula (hole in the vagina), 22, 94, 186
hard lump under skin, **272**
hematoma (blood blister) in, **248–249**
how the baby moves through, **197–198**
illustrated, 27, 28, 29, 376
infection, **272**
keeping germs away, 175
menopause and, 31
models for teaching about, **452–453**, **454**, **460**
pain after birth, **248–249**
preventing tears, **206–208**, 356
show (mucus tinged with blood), **150–151**
smells bad, 77, 321
spotting, 79, 112
squeezing exercise for (Kegels), 44
supporting opening during birth, **206**
torn, **239**
touching during birth, avoiding, 195, 206
vaginal exams during labor, **186**, **339–340**
warm cloths around opening, **207**
wetness from (discharge), **77**

Vaginal exams during labor, 186, 339–340
Vaginal infection, 272
Vagus nerve, 426
Varicose veins, 76
Vasectomy (sterilization for men), 315
VD (gonorrhea), 50, **323–325**
Vegetables, 35, 36, 37, 42
Vehicles or transportation, 10, **106–107**, **164**, **438**
Veins
giving fluid through (IV), **350–351**
swollen (varicose), 76
***Vicryl* sutures**, 358
Vinegar test for HPV, 379, **380**
Vision
Also see Eyes
blurred, 109, 125
double, 125
Visual pelvic exam, 373, **376**
Vitamin A, **39**
Vitamin B-6, 73
Vitamin C, 116
Vitamins
Also see specific vitamins
buying, avoiding, 42
to eat every day, **37**, **39**
glow foods, 34, 35
injections, 42
pills, 36, 42
Vomiting
Also see Nausea
drinking during labor and, 159
"shooting" from baby, **276**
warning signs versus healthy signs, **110–111**
Vulva. *See* Genitals

W

Walking to encourage labor, 192
Warning signs. *See* Signs (baby); Signs (mother during pregnancy); Signs (mother in labor, birth, and after)
Warts, genital (HPV), **333**, 379, **380**
Washing
Also see Cleanliness; Sterilizing equipment
bedding, **58**
hands, **53–54**, **153**, 168
mother after birth, **247**
tools, **59**
Waste disposal
placenta, 67, 235
safe, **67–69**
Water and liquids
Also see Dehydration
after birth, **250**
boiling to kill germs, 54
breastfeeding and, 283
constipation and, 76
dirty, germs in, **50**
drinking during labor, **159–160**
for fever, 178
first weeks after birth, 269
giving fluid through a vein (intravenous solution or IV), **350–351**
in healthy diet, 39
high blood pressure and, 125
rehydration drink, **159–160**
Water in the womb. *See* Bag of waters
Water retention. *See* Swelling
Waters. *See* Bag of waters
Water timers, **444**
Water weight. *See* Swelling
Weakness
Also see Anemia; Tiredness
in past pregnancies, 93
poor nutrition and, 117
as warning sign, **111**, 116
Weeks pregnant, figuring, 88, 89, 90. *Also see* Length of pregnancy
Weight
Also see Size
baby not gaining, **276**
checking the baby's, **256**, **258**
checking the mother's, **118–119**
large baby, 254, **258**
large baby in past, 94, 115
overweight mother, 115, 118
small baby, **221**, 254, **256–257**, **292**
small baby in past birth, 94
sudden gain by mother, 118, 119
thin mother, 118
Western medicine, 17, 18
Wetness from vagina. *See* Discharge (wetness from vagina)
Where There Is No Doctor, 41, 115, 328
Where Women Have No Doctor, 46, 105, 111, 322
White color. *See* Pale color
White discharge. *See* Yeast infection
Womb (uterus)
Also see Contractions; Manual vacuum aspiration (MVA); Measuring the womb; Placenta; Position of the baby; Touching inside the vagina
bigger than normal, 115
bimanual (2-hand) exam, **385–386**
comes out with the placenta, **232–233**
cramps in early pregnancy, **79**
feeling baby inside, 87
first weeks after birth, **270–271**
growing too fast, **133–134**
growing too slowly, **134–135**
helping contract after the placenta is born, 224, **236–238**
how a baby grows, **30**
how women get pregnant, **29**
illustrated, 28, 29
infection, 120, 179, **185**, **271**, **399**
infection in past pregnancies, 95
measuring, 90, **130–135**
models for teaching about, **450–451**, **454–457**, **460**
pain during labor, **183–185**
piece of placenta left inside, **234–235**
position of the baby, **135–144**, **170–171**, **190–191**
pushing on mother's belly and, **205**
rubbing after the placenta is born, **224**, 236
scar from cesarean surgery, 96
scars from abortion, 92
signs that the placenta has separated, **226–227**
sore after birth, 159
staying soft after placenta is born, **236–238**
tissue coming out, after abortion, 408
torn, **184–185**, **205**
water in, too little, 134
water in, too much, **133**
Work
breastfeeding and, **284–286**
in pregnancy health history, **105**
Working with chemicals, 47
Worms. *See* Parasites
Worry during pregnancy, 82

X

X-rays, 434

Y

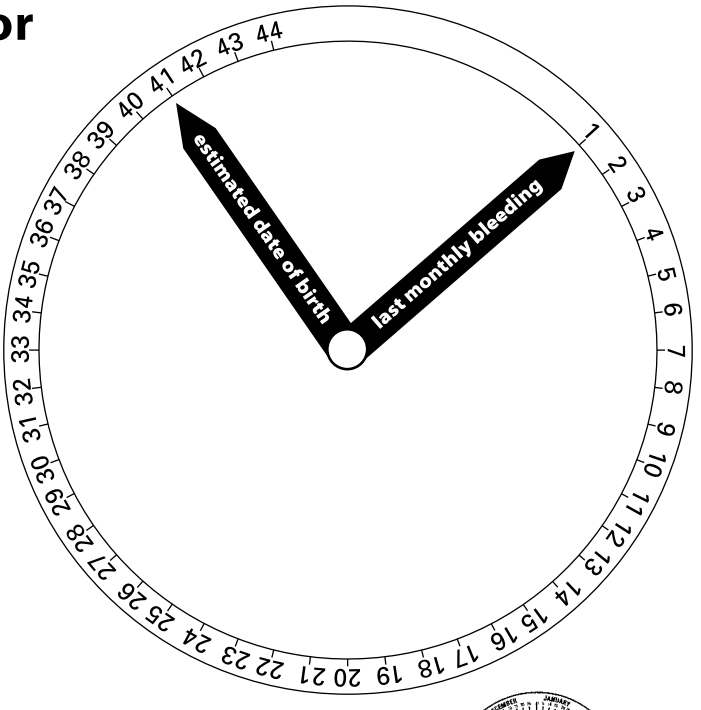
Yeast infection, 326–327
frequent, diabetes and, 115
preventing, **327**
signs of, **326**
thrush, **290**
treatment, **327**
Yellow color (baby), 266, 279
Young mothers, 22, 105

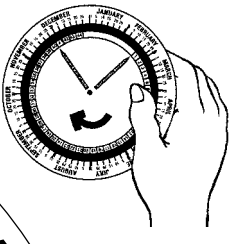
Due date calculator

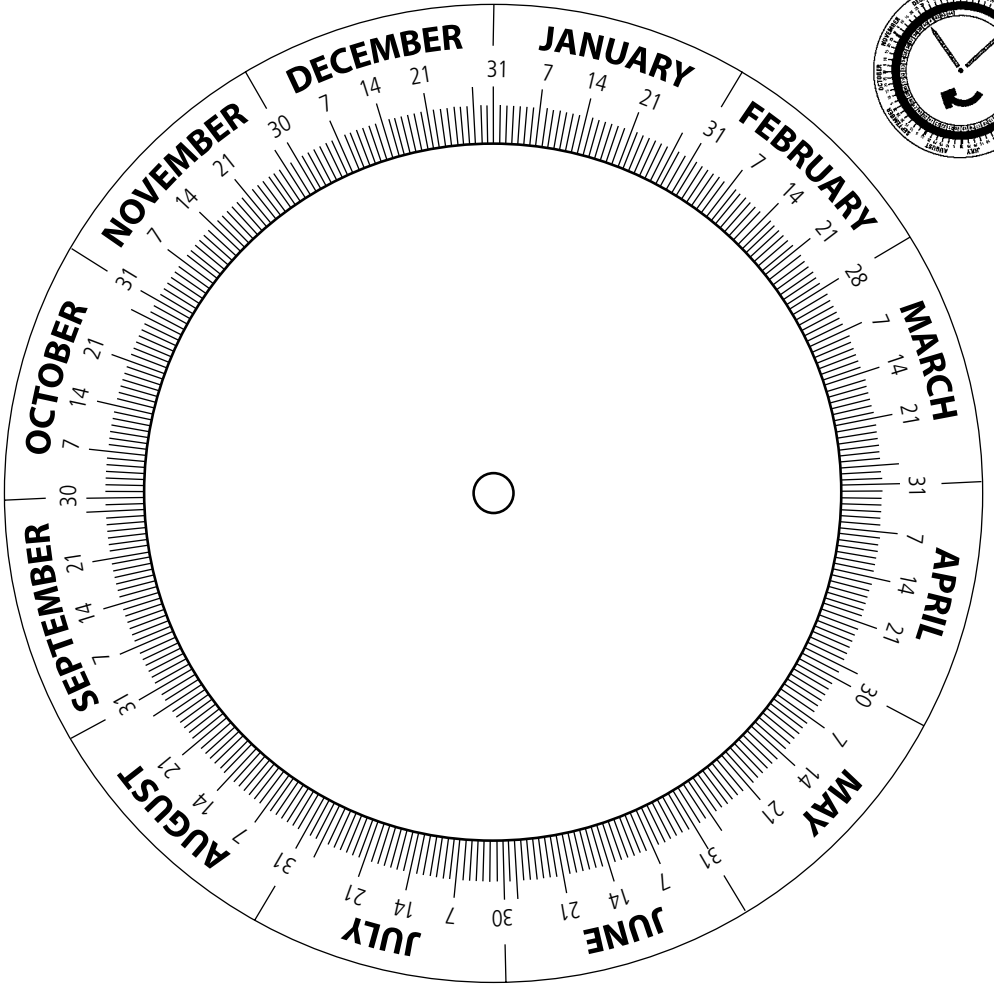
This simple tool can show you what a woman's due date will be. See page 88 to learn more about due dates.

Copy this page and paste it onto a piece of cardboard or stiff paper. Then cut the circles out. Put the smaller circle on top of the larger circle and fasten them together through the center.

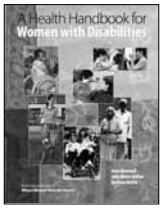
To use the wheel, point the arrow that says "last monthly bleeding" to the first day of the woman's last monthly bleeding. The other arrow will then be pointing to the baby's estimated date of birth.





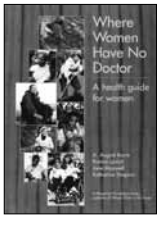


Other books from the Hesperian Foundation



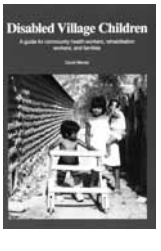
A Health Handbook for Women with Disabilities by Jane Maxwell, Julia Watts Belser and Darlena David provides women with disabilities and their caregivers suggestions on disability-friendly health care, caring for daily needs, having healthy and safe sexual relationships, family planning, pregnancy and childbirth, and defense against violence and abuse. The book also focuses on social stigma and discrimination. 406 pages.

Where There Is No Doctor, by David Werner with Carol Thuman and Jane Maxwell. The most widely used health care manual in the world provides vital, easy to understand information on how to diagnose, treat and prevent common diseases. An emphasis is placed on prevention, including cleanliness, diet, vaccinations and the importance of community mobilization. 512 pages.



Where Women Have No Doctor, by A.August Burns, Ronnie Lovich, Jane Maxwell and Katharine Shapiro, combines self-help medical information with an understanding of the social factors that limit women's health. Essential information on problems that affect only women or affect women differently from men. 584 pages.

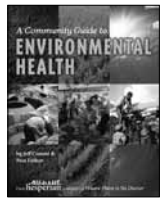
Where There Is No Dentist, by Murray Dickson, shows how to care for teeth and gums at home, and in community and school settings. Detailed and illustrated information on dental equipment, placing fillings and pulling teeth, teaching hygiene and nutrition, and HIV and oral health. 208 pages.



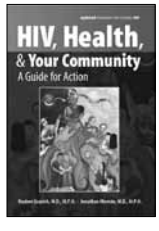
Disabled Village Children, by David Werner, covers most common disabilities of children. It gives suggestions for rehabilitation and explains how to make a variety of low-cost aids. Emphasis is placed on how to help disabled children find a role and be accepted in the community. 672 pages.

Helping Children Who Are Blind, by Sandy Niemann and Namita Jacob, aids parents and other caregivers in helping blind children from birth through age 5 develop all their capabilities. Topics include: assessing how much a child can see, preventing blindness, moving around safely, teaching common activities, and many others. 192 pages.

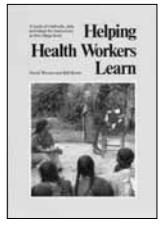
Helping Children Who Are Deaf, by Darlena David, Devorah Greenstein and Sandy Niemann, aids parents, teachers, and other caregivers in helping deaf children learn basic communication skills and a full language. It includes simple methods to assess hearing loss and develop listening skills, and explores how communities can work to help deaf children. 250 pages.



A Community Guide to Environmental Health, by Jeff Conant and Pam Fadem, will help urban and rural health promoters, activists and community leaders take charge of their environmental health. 23 chapters address topics from toilets to toxics, watershed management to waste management, and agriculture to air pollution. Includes activities, how-to instructions to make health technologies, and dozens of stories. 600 pages.



HIV, Health, and Your Community, by Reuben Granich and Jonathan Mermin. This clearly written guide emphasizes prevention, transmission and ideas for designing HIV treatment programs. Contains an appendix of common health problems for people with HIV, and an updated section on antiretrovirals. 245 pages.



Helping Health Workers Learn, by David Werner and Bill Bower, is an indispensable resource that makes health education fun and effective. Includes activities, techniques, and ideas for low-cost teaching aids. A people-centered approach to health care, it presents strategies for community involvement through participatory education. 640 pages.

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